



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



HC 25QJ

100

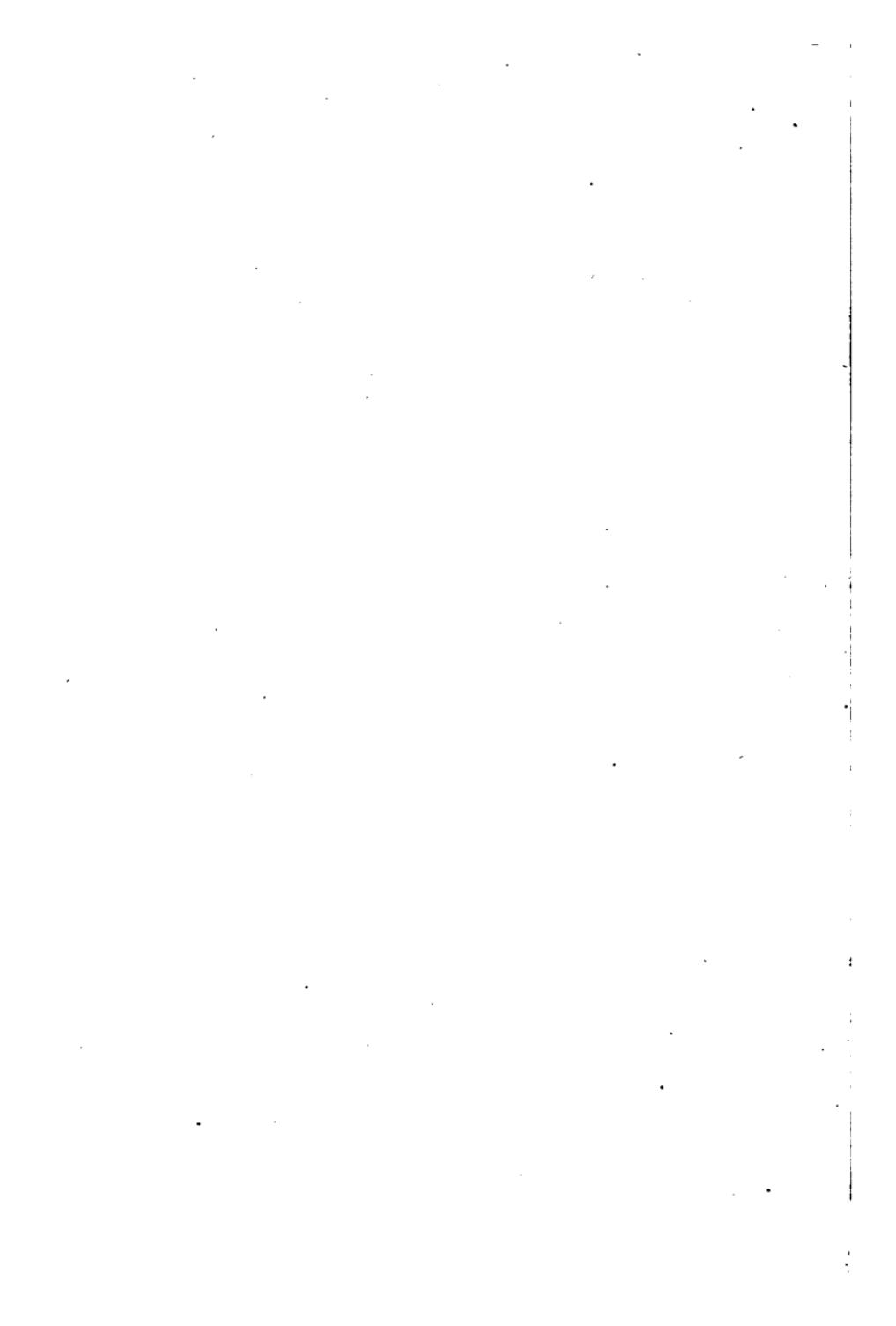


10



J. G. Pestalozzi.
1822.

John Owen Pestalozzi,
Tottenham.



THE SELECT WORKS OF GEORGE COMBE.

ISSUED BY AUTHORITY OF THE COMBE TRUSTEES.

THE CONSTITUTION OF MAN.

THE SELECT WORKS OF GEORGE COMBE.

THE SERIES INCLUDES:—

**The Constitution of Man.
Moral Philosophy.
Science and Religion.
Discussions on Education.
&c. &c.**

THE
CONSTITUTION OF MAN

IN RELATION TO

THE NATURAL LAWS.

BY

GEORGE COMBE.

"Vain is the ridicule with which one foresees some persons will divert themselves upon finding lesser pains considered as instances of Divine punishment. There is no possibility of answering or evading the general thing here intended, without denying all final causes."—BUTLER'S *Analogy*.

CASSELL AND COMPANY, LIMITED:
LONDON, PARIS & MELBOURNE.

THE CASSELL PUBLISHING COMPANY,
NEW YORK.

1808.



**BOSTON MEDICAL LIBRARY
IN THE
FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE**

P R E F A C E.

GEORGE COMBE died on the 14th of August, 1858, leaving to his Trustees the care of his Works.

The first edition of this treatise appeared in 1828. The edition which the author last revised for the press was the eighth (post 8vo, 1847); but the alterations then made were never transferred by him to the "People's Edition" (in royal 8vo), which had previously been stereotyped for the second time in 1841, and impressions of which continued to be frequently thrown off till the end of 1858. A few months before his death he began to prepare the Work for a final edition, which he had long been hoping to publish. Unhappily, he had proceeded but a short way with this revision when he died.

In preparing the present edition, the Editor has, with the approval of the Trustees, made such alterations on the Work as the lapse of time and the progress of knowledge have rendered necessary, or as were evidently requisite to harmonise it with the views propounded in his latest Work—"On the Relation between Science and Religion."

The central idea of the Treatise is independent of the system of Phrenology, with which the author's name is usually associated. That idea is that the Laws of Nature have been instituted by an omnipotent, all-just,

and all-wise God, and that the observance of these laws is a religious duty. God's Providence, in accordance with this view, consists in the regular action of His established laws, so that observance of them produces happiness, and infringement of them leads to the appropriate punishment.

The system of Phrenology which the author incorporated with his ethical teaching has been to many readers a hindrance rather than a help. The Editor has therefore, in this popular edition of the Work, retained only so much of that system, and of its terminology, as seemed to be warranted by the estimate of its scope and utility now adopted by men of science. The text has been carefully revised, and redundancies and unnecessary illustrations have been excised ; but nothing has been omitted that seemed to be necessary to the continuity or the completeness of the argument.

Most of the Notes contained in previous editions have been retained, and a few have been added which the altered conditions of society rendered necessary.

A proof of the continued interest in George Combe's works is given in the recent bequest (1892) of Robert Cranston, Esq., formerly one of the magistrates of the City of Edinburgh, who in his trust disposition left "to the Society for the propagation of the works of George Combe, the sum of *three hundred pounds*." It will be the duty of the Combe Trustees to devote this fund to the purpose designed by the Testator.

Edinburgh, May, 1893.

CONTENTS.

INTRODUCTION.

HUMAN NATURE.

| | PAGE |
|--|------|
| Man contrasted with the lower animals | 1 |
| Independent operation of the Natural Laws | 3 |
| Double meaning of the phrase "Natural Laws" | 7 |
| Three classes of Natural Laws—Physical, Organic, and Moral | 8 |
| Religious aspect of the Natural Laws | 10 |

CHAPTER I.

THE NATURAL LAWS.

| | |
|--|----|
| Laws of Nature illustrated | 12 |
| No exceptions to their operation when conditions are the same | 13 |
| Bishop Butler on the Divine government of the world | 15 |
| Necessity of observation and reflection | 16 |
| Physical and Organic Laws | 17 |
| Moral and Intellectual Laws | 18 |
| Independence of the Natural Laws | 18 |
| Obedience to each Law attended with its own good, and disobedience with its own evil, consequences | 19 |
| Fixity of the Natural Laws | 19 |
| Their harmony with the constitution of Man | 20 |
| Their benevolence | 21 |
| Mere knowledge of the Natural Laws insufficient to ensure their observance | 21 |
| Creation constituted in harmony with the whole faculties of Man | 22 |

CHAPTER II.

MAN'S ADAPTATION TO NATURE.

| | |
|--|----|
| The constitution of Man compared with that of the brutes: quotation from Bishop Butler | 24 |
| I. <i>Man considered as a physical being</i> | 25 |
| II. <i>Man considered as an organised being</i> | 27 |
| Conditions of his perfection as such | 27 |
| 1. Soundness of constitution in the parents | 27 |
| 2. Supply of food, light, air, etc. | 27 |
| 3. Exercise of all the organs | 27 |
| Necessity of human industry | 29 |
| Adaptation of food to the wants of Man in different climates | 29 |
| Misery from idleness | 31 |

| | PAGE |
|--|------|
| III. <i>Man considered as an animal, moral, and intellectual being</i> | 31 |
| Synopsis of the faculties of Man | 32 |

CHAPTER III.

THE FACULTIES IN OPERATION.

| | |
|---|----|
| I. <i>The faculties of Man in relation to one another</i> | 36 |
| The Propensities | 38 |
| The Lower Sentiments | 42 |
| The Higher Sentiments | 45 |
| The Intellectual Faculties | 47 |
| Supremacy of the Moral Sentiments and the Intellect | 47 |
| II. <i>The faculties of Man in relation to external objects</i> | 51 |
| The Propensities | 51 |
| The Lower Sentiments | 52 |
| The Higher Sentiments | 53 |
| The Intellectual Faculties | 56 |

CHAPTER IV.

THE SOURCES OF HAPPINESS.

| | |
|---|----|
| I. <i>Activity the source of all enjoyment</i> | 58 |
| Pleasure of acquiring knowledge | 59 |
| Intuitive knowledge and unerring instinct wisely withheld from Man | 60 |
| An objection considered | 61 |
| However largely knowledge of the Natural Laws may be attained by the race, individuals must still acquire it | 66 |
| II. <i>The faculties must be gratified harmoniously</i> | 67 |
| III. <i>The laws of external creation must accord with Man's whole faculties, and he must be capable of learning and obeying them</i> | 67 |

CHAPTER V.

THE NATURAL LAWS AND HUMAN LIFE.

| | |
|--|----|
| A system of life and occupation proposed | 69 |
| Why has Man hitherto fallen so far short of happiness? | 72 |
| Has happiness increased in proportion to increase of knowledge? | 74 |
| Individual happiness greatly dependent on that of the mass | 75 |
| The experience of past ages no conclusive reason for despair of civilisation in the future | 76 |
| Recent date of many discoveries necessary to human welfare | 76 |
| Miseries from past ignorance | 77 |

CHAPTER VI.

INFRINGEMENT OF THE PHYSICAL AND THE ORGANIC LAWS.

| | |
|--|----|
| I. <i>Calamities arising from disregard of the Physical Laws</i> | 78 |
| The Law of Gravitation | 80 |

CONTENTS.

| | ix |
|--|------|
| | PAGE |
| II. Evils from infringement of the Organic Laws. | 82 |
| Possibility of enjoying constant health and strength during a long life | 84 |
| Bad hereditary constitution of body | 84 |
| Insufficiency of food, etc. | 85 |
| Neglect to exercise the various organs of the body, especially the brain | 86 |
| Beneficial effects of mental exercise | 87 |
| Causes of the plague in former ages | 90 |
| Diseases from undrained marshes | 90 |
| Explosions in coal-pits | 91 |

CHAPTER VII.

ADVANTAGES OF SCIENTIFIC EDUCATION.

| | |
|---|----|
| Defects of Education as at present conducted | 93 |
| The Physical and the Organic Laws interest the Intellect | 93 |
| Practical importance of Knowledge of Principles | 94 |
| Illustrative cases | 95 |
| The Physical and Organic Laws cannot be disregarded for moral objects | 97 |
| Illustrative cases | 97 |

CHAPTER VIII.

THE LAW OF HEREDITY.

| | |
|---|-----|
| Bad effects of ill-assorted unions on the children | 103 |
| Hereditary predisposition to diseases | 103 |
| Hereditary qualities of brain and mental character | 104 |
| National brains and characters | 106 |
| Effects of mixture of races | 107 |
| Laws of hereditary transmission of mental qualities | 108 |
| Are factitious or temporary conditions of the body hereditary ? | 109 |
| Acquired habits hereditary | 109 |
| Influence of impressions on the mind of the mother | 111 |
| Deafness and dumbness in families | 111 |
| Transmission of temporary mental and bodily qualities | 112 |
| Why talent does not always descend | 115 |
| Importance of these subjects | 115 |

CHAPTER IX.

MARRIAGE AND THE ORGANIC LAWS.

| | |
|---|-----|
| General neglect of the Organic Laws in forming marriages | 117 |
| Law prohibiting too early marriage in Württemberg | 119 |
| Is it just that children should inherit the defects of their parents ? | 119 |
| Why organic defects do not always descend | 123 |
| Variety of children of the same marriage | 124 |
| Cases exemplifying the consequences of disregarding the law of hereditary descent | 124 |
| Deterioration of offspring of marriages of blood-relations | 126 |

CONTENTS.

CHAPTER X.

DEATH AND NATURAL LAW.

| | PAGE |
|---|------|
| Dissolution a law of Nature | 127 |
| It clears the stage for Youth | 128 |
| The view that Death is the punishment of sin | 129 |
| The case of the lower animals | 130 |
| The uncertain and the unascertained | 133 |
| Functional diseases, infringements of Natural law | 134 |
| A benevolent principle in Death | 135 |
| Death in old age, a natural institution | 136 |

CHAPTER XI.

THE MORAL LAW IN SOCIAL AFFAIRS.

| | |
|--|-----|
| Happiness from harmonious activity of the mental faculties | 140 |
| Misery from their discordant action | 141 |
| The attributes of God seem highest to those best acquainted with His works | 143 |
| Advantages from observance of the Moral Law | 145 |
| Defects of Political Economy | 146 |
| Futility of the notion that men have not time to study the Natural Laws | 147 |
| (1) The evils that overtake Individuals | 148 |
| (2) The evils that overtake Society | 148 |
| Over-population and its consequences | 151 |
| Evils from devoting too much time to labour | 151 |
| The manufacturing system of Britain | 152 |
| The evil of Trades Unions | 154 |

CHAPTER XII.

THE MORAL LAW AND LABOUR.

| | |
|---|-----|
| Necessity of cultivating the higher faculties of the labouring population | 156 |
| Labour highly beneficial, though its excess injurious | 157 |
| Mechanical inventions diminish the necessity for human labour | 158 |
| And this will lead to an increase of practical Christianity | 160 |
| Reply to an objection to the opinion that labour may be greatly limited | 160 |
| Means of improving the mental condition of the labouring classes | 162 |
| Province of legislative interference with human action | 162 |
| Evils suffered by the middle and the higher ranks | 163 |

CHAPTER XIII.

THE MORAL LAW AND NATIONAL PROSPERITY.

| | |
|---|-----|
| Prosperity not to be attained by injuring other nations | 165 |
| Real sources of national prosperity | 167 |
| Errors of England in her attempts to become great | 168 |
| The Roman Empire fell in consequence of immorality | 169 |

CONTENTS.

| | xi |
|---|------|
| | PAGE |
| Calamities similarly brought on England | 170 |
| The American War of Independence | 171 |
| The National Debt | 172 |
| War of the French Revolution | 173 |
| Individual miseries from national faults | 174 |
| Improvement inaugurated by the Act for Parliamentary Reform | 175 |
| The slave-trade and its effects | 176 |
| Cruelty and injustice of the Spaniards in South America, and their punishment | 176 |
| The British conquest and government of India | 177 |
| Sources of success in different stages of social progress | 179 |

CHAPTER XIV.

SUFFERING UNDER THE NATURAL LAWS.

| | |
|--|-----|
| The spirit of laws agrees with the character of the lawgiver | 181 |
| Benevolent and just spirit of the Divine laws | 182 |
| Difficulties considered | 183 |
| Object of suffering | 184 |
| Punishment of each other by the lower animals | 185 |
| Punishment of criminals among men | 187 |

CHAPTER XV.

MORAL RETRIBUTION.

| | |
|---|-----|
| Dictates of the moral sentiments and the intellect as to the treatment of criminals | 190 |
| Causes of crime, which must be counteracted | 191 |
| Effects of the animal and the moral modes of treating criminals contrasted | 192 |
| Distinction between right and wrong | 196 |
| Objections to the moral mode of treating criminals answered | 198 |

CHAPTER XVI.

THE NATURAL LAWS IN COMBINATION.

| | |
|---|-----|
| Confused notions in the minds of many as to accidents and misfortunes, and "providential" escapes | 201 |
| What are accidents? | 202 |
| Instances of the combined action of the Organic and Moral and of the Moral and Physical Laws | 202 |
| Great fires in the Old Town of Edinburgh in 1824 | 203 |
| Shipwrecks from the rashness and ignorance of those in authority | 206 |
| Opposite instance of a well-commanded ship | 207 |
| Lord Exmouth's wise and noble conduct in saving a ship-wrecked crew | 207 |

CONTENTS.

| | PAGE |
|---|------|
| Calamities to fishermen from neglect of the barometer | 208 |
| Instance of safety of a ship in a storm, from attention to the barometer's warning | 209 |
| Captain Lyon's unsuccessful attempt to reach Repulse Bay in H.M.S. <i>Griper</i> | 210 |
| Possibility of greatly diminishing the number of shipwrecks | 216 |
| Mercantile distress in Britain in 1825-6 | 216 |
| Practical conclusions from the foregoing instances | 216 |
| Can we evade the action of the Natural Laws? | 217 |

CHAPTER XVII.

PRACTICAL VALUE OF THE NATURAL LAWS.

| | |
|--|-----|
| In regard to Politics | 219 |
| In regard to Legislation | 219 |
| In regard to Education | 220 |
| Morals and Religion | 220 |
| Professions, pursuits, hours of labour, and amusements | 221 |
| The practice of Religion | 221 |
| What should Education embrace? | 225 |
| What should Religious Instruction embrace? | 226 |

APPENDIX.

| | |
|---------------------------------------|-----|
| I. Death | 228 |
| II. The treatment of Criminals | 231 |
| III. Suffering under the Natural Laws | 233 |

THE CONSTITUTION OF MAN.

INTRODUCTION.

HUMAN NATURE.

MAN obviously stands pre-eminent among sublunary objects, and is distinguished by remarkable endowments above all other terrestrial beings. Nevertheless, no creature presents such anomalous appearances as Man. Viewed in one aspect, he resembles a demon ; in another, he almost appears as the image of God. Seen in his crimes, his wars, and his devastations, he might be mistaken for the incarnation of an evil spirit ; contemplated in his schemes of charity, his discoveries in science, and his vast combinations for the benefit of his race, he seems a bright intelligence from heaven.

The lower animals exhibit a more simple and regulated constitution. The lion is sly and ferocious ; but he is regularly so, and, besides, is placed in circumstances suited to his nature, in which at once scope is given and limits are set to the gratification of his instincts. The sheep, on the other hand, is mild, feeble, and inoffensive ; but its external condition also is suited to its constitution, and it apparently lives and flourishes in as great enjoyment as the lion. The same remark applies to other inferior animals. Their bodily organs, faculties, instincts, and external circumstances form parts of a system in which adaptation and harmony are discoverable ; and the enjoyment of the animals depends on the adaptation of their constitution to their external condition.

The young swallow, when it migrates on the approach of the first winter of its life, is impelled by an instinct implanted by the Deity, and it neither knows the cause that prompts it to fly nor the end to be attained by its flight. It has no powers exciting it to reflect on itself and on external

objects, and to inquire whence came its desires, or to what object they tend. Man, however, has been differently framed. He has received faculties fitted to observe phenomena, and to trace causes and effects ; and *the external world affords scope to these powers.* We are entitled, therefore, to say that we are commanded by Divine authority to observe and inquire into the causes that operate in us and around us, and into the results that naturally follow, and to modify our conduct according to the discoveries which we shall make.

To enable us to form a just estimate of our duty and interest as the rational occupants of this world, we may inquire briefly into the constitution of our own nature and that of external objects.

The constitution of this world does not look like a system of optimism. It appears to be arranged, to some extent, on the principle of slow and progressive improvement. Physical nature has undergone many revolutions ; and we learn from geology that it has been gradually prepared for successive orders of living beings, rising higher and higher in the scale of organisation and intelligence, until Man appeared.

All geological authorities agree in representing physical nature as having undergone a variety of changes, and as having at length attained to the condition which it now presents, before Man occupied its surface. "I need not dwell," says Lyell, "on the proofs of the low antiquity of our species, for it is not controverted by any experienced geologist. . . . It is never pretended that our race co-existed with assemblages of animals and plants, of which *all or even a large proportion of the species* are extinct." (P. 143.)

"In all these various formations," says Dr. Buckland, "the coprolites" (or dung of the Saurian reptiles in a fossil state, exhibiting scales of fishes, and other traces of the prey which they had devoured) "form records of warfare waged by successive generations of inhabitants of our planet on one another ; and the general law of nature, which bids all to eat and be eaten in their turn, is shown to have been co-extensive with animal existence upon our globe, the *carnivora* in each period of the world's history fulfilling their destined office to check excess in the progress of life, and maintain the balance of creation."

Thus it is admitted by the most esteemed authorities

that death and reproduction formed parts of the order of nature before Man can be traced on the globe.

Let us now contemplate Man himself, and his adaptation to the external world. The order of nature seems not to have been changed at his introduction, but he appears to have been adapted to it. He received an organised structure, and animal, moral, and intellectual powers. He is to a certain extent an animal in his structure, powers, feelings, and desires, and is adapted to a world in which death reigns, and generation succeeds generation. This fact, although so trite and obvious as to appear scarcely worthy of being mentioned, is of importance in treating of Man; because the human being, in so far as he resembles the inferior creatures, is capable of enjoying a life like theirs: he has pleasure in eating, drinking, and sleeping, and in exercising his limbs; and one of the greatest obstacles to his improvement is that many are contented with these enjoyments, and consider it painful to be compelled to seek higher sources of gratification.

But to the animal nature of Man have been added moral sentiments and reflecting faculties, which not only place him above all other creatures on earth, but constitute him a different being from any of them—a rational and accountable being. These faculties are his best and highest gifts, and the sources of his purest and intensest pleasures. They lead him directly to the great objects of his existence—obedience to the laws of God and love of his fellow-men. But this peculiarity attends them, that while his animal faculties act powerfully of themselves, his rational faculties require to be cultivated, exercised, and instructed before they will yield their full harvest of enjoyment.

The material world is so arranged as to hold forth strong inducements to Man to cultivate his higher powers. In surveying it, the philosophic mind perceives in external nature an assemblage of stupendous powers, too great for the feeble hand of Man entirely to control, but kindly subjected, within certain limits, to the influence of his will. Man is introduced on earth apparently as a homeless stranger, helpless and unprovided for; but the soil on which he treads is endowed with a thousand capabilities of production, which require only to be excited by his intelligence to yield the most ample supplies for his wants. The impetuous torrent rolls its waters to the main; but before it dashes from the mountain cliff he can withdraw

it from its course, and render it subservient to his will. Ocean extends o'er half the globe its liquid plain, in which no path appears, and the rude winds oft lift its waters to the sky ; but there the skill of Man may launch the strong-knit bark, and make the trackless deep a highway through the world. In such a state of things, knowledge is truly power ; and it is highly important to human beings to become acquainted with the constitution and relations of every object around them, that they may discover its capabilities of ministering to their advantage.

Where these physical energies are too powerful to be controlled, Man has received intelligence by which he may observe their courses, and accommodate his conduct to their influence. This capacity of adaptation is a valuable substitute for the power of regulating them by his will. He cannot arrest the sun in its course, and thus avert the wintry storms and cause perpetual spring to bloom around him ; but, by the exercise of his intelligence and his corporeal energies, he is able to foresee the approach of dark clouds and rude winds, and to place himself in safety from their injurious effects. These powers of applying nature to his use, and of accommodating his conduct to its course, are the direct results of his rational faculties ; and in proportion to their cultivation is his sway extended. While ignorant, he is a helpless creature, but every step in knowledge is accompanied by an augmentation of his command over his own condition.

Man, ignorant and uncivilised, is cruel, sensual, and superstitious. The world affords some enjoyments to his animal feelings, but it perplexes his moral and intellectual faculties. External nature exhibits to his mind a mighty chaos of events and a dread display of power. The chain of causation appears too intricate to be unravelled, and the power too stupendous to be controlled. Order and beauty, indeed, occasionally gleam forth to his eye from detached portions of nature, and seem to promise happiness and joy ; but more frequently clouds and darkness brood over the scene, and disappoint his fondest expectations. Nature is never contemplated by him with a clear perception of its adaptation to promote the enjoyment of the human race, or with a well-founded confidence in the wisdom and benevolence of its Author.

On the other hand, when civilised and illuminated by knowledge, Man discovers, in the objects and occurrences

around him, a scheme beautifully arranged for the gratification of his whole powers, animal, moral, and intellectual ; he recognises in himself the intelligent and accountable subject of an all-bountiful God, and in joy and gladness desires to study His works, to ascertain His laws, and to yield to them a steady and willing obedience. Without undervaluing the pleasures of his animal nature, he tastes the higher, more refined, and more enduring delights of his moral and intellectual capacities ; and he then calls aloud for education, as indispensable to the full enjoyment of his powers.

If this representation be correct, we perceive the advantage of gaining knowledge of our own constitution and of that of external nature, with a view to the regulation of our conduct according to rules drawn from such knowledge. Our constitution and our position equally imply that we should not remain contented with the pleasures of mere animal life, but should take the dignified and far more delightful station of moral and rational occupants of the world.

As long as Man remained ignorant of his own nature, he could not designedly form his institutions in accordance with it. Until his faculties and their relations became the subjects of his observation and reflection, they operated chiefly as blind impulses. His habits were savage, because at first his animal propensities were not directed by the moral sentiments or enlightened by reflection. He next assumed the condition of the barbarian, because his higher powers had made some advance, but had not yet attained supremacy ; and now he devotes himself, in Britain, to commerce and manufactures, because his inventive and constructive faculties have given him power over physical nature, while his love of property and his ambition are predominant, and are gratified by such employments.

Not one of these conditions, however, has been adopted from design, or from perception of its suitableness to the nature of Man. He has been ill at ease in them all ; but it does not follow that he must continue for ever equally ignorant of his nature, and equally incapable of framing institutions in harmony with it. The simple facts that the Creator has bestowed on Man reason, capable of discovering his own nature and its relations to external objects ; that He has left him to apply it in framing suitable institutions to ensure his happiness ; that, nevertheless, Man has hitherto been ignorant of his nature and of its relations ; and that, in consequence, his modes of life have never been

adopted from *enlightened views of his whole qualities and capacities*, but have sprung up from the impulsive ascendancy of one blind propensity or another—warrant us in saying that a new era will begin when Man shall study his constitution and its relations with success; and that the future may exhibit him assuming his station as a rational creature, seeking his happiness where it is really to be found, and at length attaining to higher gratification than any which he has hitherto enjoyed.

In our own country, two views of the constitution of the world and of human nature have long been prevalent, differing widely from each other, and which, if legitimately followed out, would lead to different practical results. The one is that the world, including both the physical and moral departments, is in itself well and wisely constituted, on the principle of a progressive system, and therefore capable of improvement. This hypothesis ascribes to the power and wisdom of the Divine Being the whole phenomena which nature, animate and inanimate, exhibits; because, in conferring on each part the specific qualities and constitution which belong to it, and in placing it in the circumstances in which it is found, He is assumed to have designed, from the first, the whole results which these qualities, constitution, and circumstances are capable of exhibiting. This theory affords the richest and most comprehensive field imaginable for tracing the evidence of Divine power, wisdom, and goodness in creation.

The other hypothesis is that the world was perfect at first, but fell into derangement, continues in disorder, and can be rectified only by supernatural means.

If the former view be sound, an important object of Man, as an intelligent being in quest of happiness, must be to study the elements of external nature and their capabilities; the elementary qualities of his own nature and their applications; and the relationship between these. His second object will be to discover and carry into effect the conditions—physical, moral, and intellectual—which, in virtue of this constitution, require to be realised before the fullest enjoyment of which he is capable can be attained.

According to the second view, little good can be expected from the merely natural action of creation's elements, especially the mental ones, these being all essentially disordered; and human improvement and enjoyment must be derived chiefly from spiritual influences. If the one hypothesis be

sound, Man must fulfil the *natural conditions* requisite to the existence of religion, morality, and happiness before he can reap full benefit from religious truth ; according to the other, he must believe aright in religion, and be the subject of spiritual influences to rectify the disorders of nature, before he can become capable of virtue or enjoyment : in short, according to it, science, philosophy, and all arrangements of the physical, moral, and intellectual elements of nature are subordinate, in their effects upon human happiness on earth, to religious faith.*

I have brought prominently into view, and endeavoured to substantiate and apply, a doctrine which, in my opinion, is the key to the true theory of the Divine government of the world, but which has not hitherto been duly appreciated —namely, **THE INDEPENDENT OPERATION OF THE LAWS OF NATURE.**

The meaning which I attach to the expressions “Laws of nature” and “Natural laws” may be thus explained :—Every object and being in nature has received a definite constitution, and also specific powers of acting on other objects and beings. The action of each force in the same circumstances is so regular, that we describe the force as operating under laws imposed on it by God ; but these words indicate merely our perception of the regularity of the action. It is impossible for man to alter or break a natural law, in this sense of the phrase ; for the action of the forces, and the effects they produce, are placed beyond his control. But the observation of the action of the forces leads *Man to draw rules from it for the regulation of his conduct*, and these rules also are called “natural laws,” because it is through nature that God reveals and prescribes them to the human mind.

In perusing the following pages, this double signification of the phrase should be steadily kept in view : the former is the sense in which it is employed by the physiologist and the natural philosopher ; the latter, that in which it is most commonly used by the jurist and the moralist. To speak of “obeying” and “disobeying” a natural law in the latter sense of the phrase is to speak literally and with precision ; but to speak of “obeying” or “disobeying” a natural law in the former sense (as, for instance, the law of gravitation)

* This subject is fully discussed in the author's work, “On the Relation between Science and Religion.”

is to say in a *figurative* manner that we adapt, or fail to adapt, our conduct to the fixed order and mode of action of things.

The laws of nature may, for our present purpose, be divided into three great classes—Physical, Organic, and Intellectual and Moral ; and the doctrine I would enforce is that the objects governed by these classes of laws respectively manifest *distinct forces*, *each of which acts according to its own laws*, that the human constitution has been framed with designed relation to the forces ; that Man cannot alter or evade their action, nor avert the consequences of them ; and that hence his well-being is greatly influenced by the extent of his knowledge of, and compliance with, the laws of their operation.

For example, the most pious and benevolent missionaries sailing to civilise and Christianise the heathen may, if they embark in an unsound ship, be drowned by disregarding a physical law, without the slightest reference to the moral excellence of their design. On the other hand, if the greatest monsters of iniquity were embarked in a staunch and strong vessel, and managed it well, they might—and on the general principles of the government of the world they would—escape drowning in circumstances exactly similar to those which would send the missionaries to the bottom. There appears something inscrutable in such events, if only the *moral qualities* of the men be contemplated ; but if the principle be recognised that ships float in virtue of a purely physical law, and that physical objects and moral beings act under distinct laws, each set being paramount in its own sphere, the consequences will assume a totally different aspect.

In like manner, *organised* bodies act under laws different from those to which purely physical substances and moral beings are subject. Thus one man, who has inherited a sound bodily constitution from his parents, and observed the rules of temperance and exercise, may cheat, lie, blaspheme, and annoy his fellow-men, and nevertheless for a long time enjoy robust health ; while another, if he have inherited a feeble constitution, and disregarded the laws of diet and exercise, may suffer pain and sickness, although he may be a paragon of every Christian virtue. These results are frequently observed ; and on such occasions the darkness and inscrutable perplexity of the ways of Providence are generally moralised upon—or a future life is

called in, as the scene in which these crooked paths are to be made straight. But if my views are correct, Divine wisdom and goodness are conspicuous in these events themselves ; for by this distinct operation of the organic and moral laws order is preserved in the creation, and, as will afterwards be shown, the means of discipline and improvement are afforded to all the human faculties.

The *moral and intellectual* laws also have an independent operation. From an attentive study of our constitution, it appears that the Divine Ruler has conferred on Man organs of respiration, a heart and blood-vessels, a stomach and other organs of nutrition, and so forth ; that to each of these systems He has given a definite constitution and specific modes of action ; and that He has appointed definite relations between each of them and all the others, and between each of them and the objects of external nature ; and experience teaches us that health accompanies the normal and harmonious action of the whole, and that disease, pain, and premature death are the consequences of their disproportionate and abnormal action.

It has been remarked above that God has attached to the action of natural objects consequences which Man cannot alter, but that the human constitution is adapted to natural agencies in such a manner, that by acting in accordance with them we may reap enjoyment, while by conduct in opposition to them we shall bring upon ourselves suffering. I regard the consequences of acting in the latter way as not only inevitable, *but as pre-ordained by the Divine Mind* for a purpose. That purpose appears to be to deter intelligent beings from infringing the laws instituted by God for their welfare, and to preserve order in the world.

When people think of physical laws, they generally perceive the consequences of these to be natural and inevitable ; but they do not sufficiently reflect upon the *intentional pre-ordainment* of the consequences as a warning or instruction to intelligent beings for the regulation of their conduct. It is the omission of this element that renders of so little use the knowledge of the natural laws which is actually possessed. The popular interpretations of Christianity have thrown the public mind so widely out of the track of God's natural providence, that *His object or purpose* in this pre-ordination is rarely thought of ; and the most flagrant, and even deliberate, infractions of the natural laws are spoken of as mere acts of imprudence, without the least notion that the

infringer is contemning a rule deliberately framed for his guidance by Divine wisdom, and enforced by Divine power.

In considering *moral* actions, on the contrary, the public mind leaves out of view *the natural and inevitable*. Being accustomed to regard human punishment as arbitrary, and capable of abeyance or alteration, it views in the same light the inflictions asserted to take place under the natural moral law, and does not perceive *Divine pre-ordination and purpose* in the natural consequences of such moral actions. The great object which I have had in view in the present work is to show that this notion is erroneous, and that to the infringement of *every* natural law there is attached a pre-ordained natural consequence, which Man can neither alter nor evade. To express this idea correctly, a term is required—something between simple “consequence” and “punishment.” The former fails to convey my idea in its totality, and the latter adds something to distort it.

I have endeavoured to exhibit the administration of the present world in a light calculated to arrest attention, and to draw towards it that degree of consideration to which it is entitled. This proceeding will be recognised as the more necessary if a principle, largely insisted on in the following pages, shall be admitted to be sound—viz., that religion operates on the human mind in subordination, and not in contradiction, to its natural constitution. If this view be correct, it will be indispensable that all the *natural conditions* required by the human constitution as preliminaries to moral and religious conduct be complied with *before* any purely religious teaching can produce its full effects.

If, for example, certain physical circumstances and occupations—such as insufficient food and clothing, unwholesome workshops, dwelling-places, and diet, and severe and long-protracted labour—have a natural tendency, in consequence of their influence on the nervous system in general, and on the brain in particular, to blunt all the higher feelings and faculties of the mind, and if religious emotions cannot be experienced with full effect by individuals so situated, the ascertainment of the nature, causes, and effects of these impediments to holiness, with a view to their removal, is not a matter of indifference.

This view has not been systematically adopted and acted on by the religious instructors of mankind in any age or any country; and, in my humble opinion, for these reasons: that the state of moral and physical science did

not enable them either to appreciate its importance or to carry it into effect, and that their own dogmas led them to undervalue the influence of natural forces on human well-being. By presenting Nature in her simplicity and strength, we may perhaps give a new impulse and direction to their understandings ; and they may be induced to consider whether their universally confessed failure to render men as virtuous and happy as they desired may not, to some extent, have arisen from their non-fulfilment of the natural conditions instituted by the Creator as preliminaries to success. They have complained of war waged, openly or secretly, by philosophy against religion ; but they have not duly considered whether religion itself warrants them in treating philosophy and all its dictates with neglect in their instruction of the people. True philosophy is a revelation of the Divine Will manifested in nature ; it harmonises with all truth, and cannot, with impunity, be neglected.

CHAPTER I.

THE NATURAL LAWS.

IN natural science, three subjects of inquiry may be distinguished: *1st*, What exists? *2dly*, What is the use of what exists? and *3dly*, Why was what exists constituted such as it is?

It is matter of fact, for instance, that Arctic regions and the Torrid zone exist; that a certain kind of moss is abundant in Lapland in winter—that the reindeer feeds on it, and enjoys health and vigour in situations where most other animals would die; that camels exist in Africa—that they have broad hoofs, and stomachs fitted to retain water for a considerable time, and that they flourish amid arid tracts of sand, where the reindeer would hardly live for a day. All this falls under the inquiry, What exists?

In contemplating these facts, the understanding is naturally led to infer that one object of the Lapland moss is to feed the reindeer; and that broad feet have been given to the camel to qualify it to walk on sand, and a retentive stomach to fit it for arid places, in which water is found only at wide intervals. By these arrangements the reindeer and the camel are fitted to assist Man. These conclusions result from inquiries into the uses or purposes of what exists; and such inquiries constitute a legitimate exercise of the human intellect.

But, further, we may ask, Why were animals formed of organised matter? Why were trackless wastes of snow and burning sands called into existence? Why were all the elements of nature created such as they are? These are inquiries why what exists was made such as it is, or into the will of the Deity in creation.

Now, Man's perceptive faculties are adequate to the first inquiry, and his reflective faculties to the second; but it may well be doubted whether he has powers suited to the third. My investigations are confined to the first and second, and I do not discuss the third.

The Creator has bestowed on physical nature, on Man, and on the animals, definite constitutions, which act according to fixed laws. *A law of nature* is, as I have said, a fixed mode

of action ; it implies a subject which acts, and that the actions or phenomena of that subject take place in an established and regular manner ; and this is the sense in which I shall use the phrase when treating of physical substances and beings. Water, for instance, when at the level of the sea, and cooled to 32° of Fahrenheit's thermometer, freezes or becomes solid ; when, under a certain pressure, it is heated to 212° of that instrument, it rises into vapour or steam. Here water is the substance, and the freezing and rising in vapour are the phenomena presented by it ; and when we say that they take place according to a law of nature, we mean only that these modes of action appear, to our intellects, to be established in the very constitution of the water, and in its natural relationship to heat ; and that the processes of freezing and rising in vapour always occur when, in the same circumstances, the temperature of the water is 32° and 212° .

The points chiefly to be kept in view are, *1st*, That all substances and beings have received definite natural constitutions ; *2dly*, That every mode of action which is inherent in the constitution of the substance or being may be said to take place according to a natural law ; and *3dly*, That the modes of action are universal and invariable wherever and whenever the substances or the beings are found in the same circumstances. For example, water boils at the same temperature in China, in France, in Peru, and in England ; and there is no exception to the regularity with which it undergoes the change, *when all its other conditions are the same*. This qualification, however, must constantly be attended to ; as it must be in all departments of science. If water be carried to the top of a mountain 10,000 feet high, it will boil at a far lower temperature than 212° ; but this also takes place according to fixed and invariable laws. The atmosphere exerts a pressure on water : at the level of the sea the pressure is everywhere nearly the same, and in that situation the boiling point is the same all over the world ; but on the top of a high mountain the pressure is much less, and the water, not being held down by so great a power of resistance, rises as vapour at a lower temperature than 212° .

This change of phenomena does not indicate a change in the constitution of the water, but only a variation in the circumstances in which it is placed ; and hence it is not correct to say that water boiling on the tops of high moun-

tains at a lower temperature than 212° is an exception to the general law of nature. There are no exceptions to the laws of nature ; the Creator is too wise and too powerful to make imperfect or inconsistent arrangements. The error is in inferring the law to be that water boils at 212° at every altitude. The real law is that it boils at that temperature under the pressure which occurs *at the level of the sea* in all countries, and that it boils at a lower temperature the higher it is carried, because there the pressure of the atmosphere is diminished.*

Intelligent beings are capable of observing nature and of modifying their actions. By means of their mental faculties, the laws imposed by the Creator on physical substances become known to them, and, when perceived, constitute laws to them by which to regulate their conduct. For example, it is a physical law that boiling water destroys the muscular and nervous systems of Man. This is the result of the constitution of the body, and of the relation established between it and heat : Man cannot alter or suspend the law. But whenever the relation and the consequences of disregarding it are perceived, the mind is prompted to avoid infringement, in order to avert the torture attached by the Creator to the disorganisation of the human body by heat.

* The correct scientific formula is that "the pressure of the atmosphere is not always the same at the same place, but is found by the barometer to vary within the limits of one-tenth of the whole pressure. This difference affects the boiling point to the extent of 4½°. Thus, when the height of the mercury in the barometer is expressed by the numbers in the first column, water boils at the temperatures placed against them in the second column.

| Barometer in inches of mercury. | Water boils. |
|---------------------------------|--------------|
| 27.74 | 208° |
| 28.29 | 209 |
| 28.84 | 210 |
| 29.41 | 211 |
| 29.92 | 212 |
| 30.60 | 213 |

"It appears from this table that for every inch of variation in the barometer the boiling point of water varies 1.76° ; and consequently a rise or fall in the barometer of 0.1 inch raises or lowers the boiling point 0.176°. On this account the pressure of the atmosphere must be attended to in fixing the boiling point of water on thermometers. Water boils at 212° only when the pressure of the atmosphere is equivalent to a column of 29.92 inches of mercury.

"The pressure of the atmosphere will be greatest at the level of the sea, and will diminish as we ascend to any height above it."

Similar views have long been taught by philosophers and divines. Bishop Butler, in particular, says :—“ An Author of nature being supposed, it is not so much a deduction of reason as a matter of experience that we are thus under His government ; under His government in the same sense as we are under the government of civil magistrates ; because the annexing pleasure to some actions, and pain to others, in our power to do or forbear, and giving notice of this appointment beforehand to those whom it concerns, *is the proper formal notion of government*. Whether the pleasure or pain which thus follows upon our behaviour be owing to the Author of nature’s acting upon us every moment in which we feel it, or to His having at once contrived and executed His own part in the plan of the world, makes no alteration as to the matter before us. For if civil magistrates could make the sanctions of their laws take place without interposing at all after they had passed them : without a trial, and the formalities of an execution : if they were able to make their laws execute themselves, or every offender to execute them upon himself—we should be just in the same sense under their government then as we are now : but in a much higher degree, and more perfect manner.

“ Vain is the ridicule with which one foresees some persons will divert themselves upon finding lesser pains considered as instances of Divine punishment. There is no possibility of answering or evading the general thing here intended, without denying all final causes. For, final causes being admitted, the pleasures and pains now mentioned must be admitted too, as instances of them. And if they are : if God annexes delight to some actions and uneasiness to others, with an apparent design to induce us to act so and so, then He not only dispenses happiness and misery, but also rewards and punishes actions. If, for example, the pain which we feel upon doing what tends to the destruction of our bodies—suppose upon too near approaches to fire, or upon wounding ourselves—be appointed by the Author of nature to prevent our doing what thus tends to our destruction : this is altogether as much an instance of His punishing our actions, and consequently of our being under His government, as declaring, by a voice from heaven, that if we acted so He would inflict such pain upon us, and inflicting it whether it be greater or less.” *

* “ Butler’s Analogy,” Part I., chap. ii.

If, then, the reader keep in view that God is the Creator ; that nature, in a general sense, means the world which He has made, and, in a more limited sense, the particular constitution which He has bestowed on any special object of which we may be treating : that the *laws of nature* are the established modes in which the phenomena of any object, or the constitutional actions of any creature, exhibit themselves : and that an obligation is imposed on intelligent beings to act in conformity with nature—he will be in no danger of misunderstanding my meaning.*

As every natural object has received a definite constitution, in virtue of which it acts in a particular way, there must be as many natural laws as there are distinct *modes of action* of substances and beings, viewed by themselves. And moreover, as substances and beings stand in certain relations to each other, and modify each other's action in an established and definite manner according to that relationship (pressure, for instance, modifying the effect of heat upon water), there must be also as many laws of nature as there are *relations* between different substances and beings. The practical rules deducible from these laws will become more precise and explicit in proportion as the laws themselves are understood ; but I do not expect that any degree of knowledge of these laws will ever supersede the necessity of accurate observation and reflection in Man.

There is, for example, a definite constitution and function assigned by Nature to the lungs ; certain gaseous fluids have been created, some of which when breathed vivify the blood and strengthen all the organs, while others carbonise the blood and weaken the organs. The human intellect is called on by Nature to attend to these gases, so as to place the lungs in circumstances to inhale the pure and wholesome, and to avoid the deleterious air. Hence, although this constitution and relationship of things are constant and invariable, human conduct must intelligently vary, in order to adapt itself to the actual circumstances. In the meanwhile, however, as the natural laws are invariable, Man suffers from not accommodating his conduct to them, even although his omission be the result of ignorance.

It is impossible, in the present state of knowledge, to elucidate all these laws : numberless years may elapse before they shall be discovered ; but we may investigate

* See above, pp. 6, 7.

some of the most familiar and striking of them. Those which most readily present themselves bear reference to the great classes into which the objects around us may be divided—namely, Physical, Organic, and Intellectual and Moral. I shall therefore at present consider the physical laws, the organic laws, and the laws which characterise intelligent and moral beings.

1st. The Physical Laws embrace all the phenomena of mere matter. A heavy body, for instance, when unsupported, falls to the ground with a certain force, accelerated in proportion to the distance through which it falls, and to its own density ; and this motion is said to take place according to the law of gravitation. An acid applied to a vegetable blue colour converts it into red ; and this is said to take place according to a chemical law.

2dly. Organised substances and beings stand higher in the scale of creation, and have properties peculiar to themselves. They act, and are acted upon, in conformity with their constitution, and are therefore said to be subject to a peculiar set of laws, termed the Organic. The characteristic of this class of objects is that the individuals of it derive their existence from other organised beings, are nourished by food, and go through a regular process of growth and decay. Vegetables and animals are the two great subdivisions of it. The organic laws are different from the merely physical ; a stone, for example, does not spring from a parent stone : it does not take food : it does not increase in vigour for a time, and then decay and suffer dissolution : all which processes characterise vegetable substances and animal beings.

The organic laws are superior to the merely physical. A living animal may be placed in an oven along with the carcass of a dead animal, may remain exposed to a degree of heat which will bake the dead flesh, and yet may come out alive, and not seriously injured. The dead flesh, being mere physical matter, is liable to easy decomposition by heat ; while the living animal is able, by its organic qualities, to resist, to a certain extent, the influence of heat. The organic laws, then, are the established modes according to which the phenomena of the production, health, growth, decay, and death of vegetables and animals take place. In the case of each animal or vegetable of the same kind, their action is always the same in the same circumstances. Animals are the chief objects of my present observations.

3dly. Intelligent beings stand yet higher in the scale than merely organised matter, and embrace all animals that have distinct consciousness, from the lowest of the inferior creatures up to Man. The two great divisions of this class are *intelligent and animal*—and *intelligent and moral* creatures. The dog, the horse, and the elephant, for instance, belong to the former class, because they possess some degree of intelligence and certain animal propensities, but no moral feelings ; Man belongs to the second, because he possesses all the three. Their various faculties have received a definite constitution, and stand in determinate relationship to external objects : for example, a healthy palate cannot feel wormwood sweet, nor sugar bitter ; a healthy eye cannot see a rod partly plunged in water straight—because the water so modifies the rays of light as to give to the stick the appearance of being crooked ; a healthy sentiment of benevolence cannot feel gratified with murder, nor a healthy conscientiousness with fraud. As, therefore, the mental faculties have received a precise constitution, have been placed in fixed and definite relations to external objects, and act regularly, we speak of their acting according to laws, and call these the Moral and Intellectual Laws, inherent in the constitutions of these beings.

Several important facts strike us very early in attending to the natural laws : viz., 1st, That they are independent of each other ; 2^{dly}, That obedience to each of them is attended with its own good, and disobedience with its own evil consequences ; 3^{dly}, That they are universal, unbending, and invariable in their operation ; 4^{thly}, That those of things external to Man are in harmony with his constitution.

1. The essential *independence* of the natural laws may be illustrated thus :—A ship floats because the part of it immersed displaces a quantity of water equal in weight to its whole mass, leaving the remaining portion above the fluid. A ship, therefore, will float on the surface of the water as long as these physical conditions are observed, although the men in it should infringe the moral laws—although, for example, they should rob, murder, blaspheme, and commit every species of debauchery ; and it will sink whenever the physical conditions are subverted, however strictly the crew and passengers may obey the moral laws. In like manner, a man who swallows poison which destroys the stomach or the intestines will die, just because an organic law has been infringed, and because it acts independently

of others ; although he may have taken the drug by mistake, or may be the most pious and charitable Christian on earth. Or, thirdly, a man may cheat, lie, steal, tyrannise, and, in short, break a great variety of the moral laws, and nevertheless, if he sedulously observe the organic laws of temperance and exercise, he may be fat and rubicund ; while, on the other hand, a person who neglects these may pine in disease and be racked with torturing pains, although at the very moment he may be devoting his mind to the highest duties of humanity. The power of Man to modify the influence of one natural law by availing himself of another will be considered in a subsequent chapter.

2. *Obedience to each law is attended with its own agreeable, and disobedience with its own disagreeable, consequences.* Thus, the mariners who preserve their ship by complying with the physical laws reap the advantage of sailing in safety ; and those who permit a departure from them suffer by the ship's sinking. People who obey the moral law enjoy the intense internal delights that spring from active moral faculties ; they render themselves, moreover, objects of affection and esteem to moral and intelligent beings, who, in consequence, reciprocate with them many other gratifications. Those who disobey that law are tormented by insatiable desires, which, from the nature of things, cannot be gratified ; they suffer by the perpetual craving of whatever portion of moral sentiment they possess for higher enjoyments which are never attained ; and they are objects of dislike and malevolence to men of similar dispositions to theirs, who inflict on them the evils which their own provoked propensities incite them to administer. Those who obey the organic laws enjoy health and vigour of body and buoyancy of mind ; while those who break them are visited by sickness, feebleness, languor, and pain.

3. The natural laws are *universal, invariable, and unbending.* When the physical laws are infringed in China, or in Kamtschatka, there is no instance of a ship floating there which would sink in England ; and when they are observed, there is no instance of a vessel sinking in either of these countries which could float in any other. There is no example of men, in any country, enjoying the mild and generous internal joys and the outward esteem and love that attend obedience to the moral law, while they give themselves up to the dominion of brutal propensities. There is no example, in any latitude or longitude, or in any

age, of men who entered life with a constitution in harmony with the organic laws, and who continued to obey these laws, being, *in consequence* of this obedience, visited with pain and disease ; and there are no instances of men who were born with constitutions marred by disease, and who have lived in habitual disobedience to the organic laws, enjoying that sound health and vigour of body which is the consequence of obedience.

4. The natural laws are *in harmony with the constitution of man*. If ships in general had sunk when they were staunch, strong, and skilfully managed, this would have outraged the perceptions of reason ; but as they float, the physical law is in this instance in harmony with the moral and intellectual law. If men who rioted in drunkenness and debauchery had thereby established health and increased their happiness, this, again, would have been at variance with our intellectual and moral perceptions ; but the opposite result is in harmony with them.

It will be subsequently shown that our moral sentiments desire universal happiness. If the physical and organic laws are constituted in harmony with them, it ought to follow that the natural laws, when obeyed, will conduce to the happiness of the moral and intelligent beings who are called on to observe them ; and that the evil consequences resulting from infringement of them will be calculated to enforce stricter obedience, for the advantage of these creatures themselves. According to this view, when a ship sinks in consequence of a plank starting, the disaster is intended to impress upon the spectators the absolute necessity of having every plank strong and secure before going to sea, this being a condition indispensable to safety. When sickness and pain follow a debauch, the object of the suffering is to urge a more scrupulous obedience to the organic laws, that the individual may escape premature death, which is the inevitable consequence of great and continued disobedience of these laws, and enjoy health, which is the reward of the opposite conduct. When discontent, irritation, hatred, and other mental annoyances, arise out of infringement of the moral law, this suffering is calculated to induce the offender to return to obedience, that he may enjoy the calm and pure pleasures which naturally flow from morality.

When the transgression of any natural law is excessive, and is so great that return to obedience is impossible, one

purpose of death, which then ensues, may be to deliver the sufferer from protracted misery, which could do him no good. Thus when, from infringement of a physical law, a ship sinks at sea, and leaves men immersed in water without the possibility of reaching land, their continued existence in that state would be one of cruel suffering: it is therefore advantageous to them to have their lives extinguished at once by drowning, and to be thus withdrawn from further agony. In like manner, if a man in the vigour of life so far infringe any organic law as to destroy the function of a vital organ—such as the heart, the lungs, or the brain—it is better for him to have his life cut short, and his pain ended, than to have it protracted under the tortures of an organic existence, without a heart or without a brain, if such a state were possible—which, for this wise reason, it is not.

I do not pretend to predicate anything concerning the absolute perfectibility of man by obedience to the laws of nature. Benevolent design in the system of sublunary creation, so far as we perceive it, is undeniable. Paley says: “Nothing remains but the supposition that God, when He created the human species, wished their happiness, and made for them the provision which He has made with that view, and for that purpose. The same argument may be proposed in different terms, thus: Contrivance proves design, and the predominant tendency of the contrivance indicates the disposition of the designer. The world abounds with contrivances; and all the contrivances which we are acquainted with are directed to beneficial purposes.”* Many of the contrivances of the Creator for effecting beneficial purposes have been discovered by philosophers: but, so far as I am aware, no one has adverted to the foregoing principles as those according to which these contrivances operate; so that nothing like a systematic view of the moral government of the world has hitherto been presented to mankind.

It may be asked, Whether mere *knowledge* of the natural laws is sufficient to ensure observance of them? Certainly not. Mere knowledge of anatomy does not enable one to perform skilfully a surgical operation, nor of music to play on a violin. Practical training, and the aid of every motive that can interest the feelings, are necessary to lead men to

* “Moral Philosophy,” B. ii., chap. v.

obey the natural laws. Religion, in particular, may furnish motives highly conducive to this obedience. I recognise explicitly the importance of religion to the welfare of society and to that of the individual. Active religious feelings dispose a man to venerate, and submit himself to, those moral and physical laws instituted by the Creator, on which his own happiness and that of society depend. They prompt him also to adoration and gratitude, emotions highly influential in the right ordering of human conduct. But it must never be forgotten that although mere knowledge is not all-sufficient, it is a primary and indispensable requisite to regular observance; and that it is as impossible effectually and systematically to obey the natural laws without knowing them as it is to perform any other complicated and important duty in ignorance of its principles and practical details.

Some persons are of opinion that Christianity alone suffices for our guidance in all practical virtues, without knowledge of, or obedience to, the laws of nature; but from this notion I respectfully dissent. One reason why vice and misery do not diminish as the number of sermons preached against them increases seems to be that the natural laws are too much overlooked, and are very rarely considered as having any relation to human conduct. Before religion can yield its full practical fruits in this world, it must be wedded to a philosophy founded on these laws; it must borrow light and strength from them, and in return must communicate its powerful sanction towards enforcing obedience to their dictates.

In connection with this subject, it is proper to repeat that I do not maintain that the world is arranged on the principle of benevolence exclusively: my idea is that it is constituted in harmony with the whole faculties of Man; the moral sentiments and the intellect holding the supremacy.

What is meant by creation being constituted in harmony with the whole faculties of Man may be thus illustrated. Suppose that we should see two men holding a third in a chair, and a fourth drawing a tooth from his head:—While we contemplated this bare act, and knew nothing of the intention with which it was done and of the consequences that would follow, we should set it down as purely cruel, and say, that although it might accord with the propensity which prompts men to inflict pain and to destroy, it could not harmonise with benevolence. But when we were told that

the person in the chair was a patient, and the operator a dentist, and that the object was to deliver the patient from violent torture, we should then perceive that an operation attended with pain had been used as a means to accomplish a benevolent purpose—or, in other words, that the operator had acted under the guidance of moral sentiment and intellect—and we should approve of his conduct. If the world had been created on the principle of benevolence exclusively, the toothache could not have existed; but, as pain does exist, a mental faculty called *destructiveness* has been given, to place Man in harmony with its existence when used for a benevolent end.

To apply this illustration to the works of Providence, I humbly suggest it as probable that if we knew *thoroughly* the design and whole consequences of such institutions of the Creator as are attended with pain (including death itself), we should find that its infliction is used as a *means*, subservient to benevolence and justice, to arrive at an end in harmony with the moral sentiments and intellect; in short, that no institution of the Creator has pure evil for its object. “In maturity of sense and understanding,” says Lord Kames, “benevolence appears more and more; and beautiful final causes are discovered in many of Nature’s productions that formerly were thought useless, or perhaps hurtful; and the time may come—we have solid ground to hope that it *will* come—when doubts and difficulties about the government of Providence will all of them be cleared up, and every event be found conducive to the general good.”*

The opposite doctrine, that there are institutions of the Creator which have suffering for their exclusive object, is clearly untenable; for this would be ascribing malevolence to the Deity. As, however, the existence of pain is undeniable, it is equally impossible to believe that the world is arranged on the principle of benevolence exclusively. The view now presented makes no attempt to explain why pain or evil came to exist, because I consider this inquiry to surpass the limits of the human understanding. It offers an explanation, however, of one use which pain serves—that of enforcing obedience to the natural laws; and it shows that the human mind is constituted in harmony with this order of creation.

* “Sketches of the History of Man,” B. iii., Sk. iii., chap. ii.

CHAPTER II.

MAN'S ADAPTATION TO NATURE.

LET us next consider the constitution of Man, and try to discover how far the external world is arranged with wisdom and benevolence in regard to it.

Bishop Butler, in the Preface to his Sermons, says :—

“ It is from considering the relations which the several appetites and passions in the inward frame have to each other, and, above all, the supremacy of reflection or conscience, that we get the idea of the system or constitution of human nature. And from the idea itself it will as fully appear that this our nature, *i.e.*, constitution, is adapted to virtue, as from the idea of a watch it appears that its nature, *i.e.*, constitution or system, is adapted to measure time. . . .

“ Mankind has various instincts and principles of action, as brute creatures have ; some leading most directly and immediately to the good of the community, and some most directly to private good.

“ Man has several which brutes have not ; particularly reflection or conscience, an approbation of some principles or actions, and disapprobation of others.

“ Brutes obey their instincts or principles of action according to certain rules ; suppose the constitution of their body, and the objects around them.

“ The generality of mankind also obey their instincts and principles, all of them ; those propensions we call good, as well as the bad, according to the same rules—namely, the constitution of their body, and the external circumstances which they are in.

“ Brutes, in acting according to the rules before mentioned, their bodily constitution and circumstances, act suitably to *their whole nature*.

“ Mankind also, in acting thus, would act suitably to their whole nature if no more were to be said of man's nature than what has now been said ; if that, as it is a true, were also a complete, adequate account of our nature.

“ But that is not a complete account of man's nature.

Somewhat further must be brought in to give us an adequate notion of it : namely, *that one of those principles of action, conscience, or reflection, compared with the rest, as they all stand together in the nature of man, plainly bears upon it marks of authority over all the rest, and claims the absolute direction of them all*, to allow or forbid their gratification—a disapprobation of reflection being in itself a principle manifestly superior to a mere propension. And the conclusion is, that to allow no more to this superior principle or part of our nature than to other parts ; to let it govern and guide only occasionally in common with the rest, as its turn happens to come, from the temper and circumstances one happens to be in—*this is not to act conformably to the constitution of man* ; neither can any human creature be said to act conformably to his constitution or nature unless he allows to that superior principle the absolute authority which is due to it."

The present treatise is in a great measure founded on the principles here suggested.

SECT. I.—MAN CONSIDERED AS A PHYSICAL BEING.

The human body consists of bones, muscles, nerves, and blood-vessels, besides organs of respiration, of nutrition, of reproduction, of feeling, and of thought. These are all composed of physical elements, and, to a certain extent, are subjected to the physical laws of creation. By the law of gravitation, the body when unsupported falls to the ground, and is liable to be injured. By another law, excessive cold freezes, and excessive heat dissipates, its fluids ; and life, in either case, is extinguished.

To discover the real effect of the physical laws of nature on human happiness, we need to understand 1st, The physical laws themselves, as revealed by the phenomena of natural substances : these laws, so far as discovered, are treated of in works of natural philosophy, natural history, chemistry, and their subordinate branches ; 2^{dly}, The anatomical and physiological constitution of the human body ; and 3^{dly}, The adaptation of the physical laws to this constitution. These expositions are necessary to ascertain the extent to which it is possible for Man to place himself in accordance with the physical laws, so as to reap advantage from them ; and also to determine how far the sufferings which he

endures may be ascribed to the inevitable operation of those laws, and how far to his ignorance and infringement of them. In the subsequent pages this subject will be treated somewhat in detail ; at present I confine myself to a single instance, as an illustration of the mode in which the investigation will be conducted.

By the law of gravitation, bodies tend toward the centre of the earth. Some of the advantages of this law are that things, when properly supported, remain at rest ; that walls, when sufficiently thick and perpendicular, stand firm and erect ; that water descends from high places, turns mill-wheels in its course, and sets in motion the most stupendous and useful machinery ; and that ships float steadily with part of their hulls immersed in water and part rising above it.

The Creator has bestowed on Man bones, muscles, nerves, and intellectual faculties, constructed on admirable principles, which place him in harmony with this law, and enable him to adapt his movements to its influence. Intellect also enables him to perceive the existence of the law, its modes of operation, the relation between it and himself, the beneficial consequences of observing this relation, and the painful results of disregarding it.

When a person falls over a precipice, and is maimed or killed—when a ship springs a leak and sinks—or when a reservoir of water breaks its banks and ravages a valley—the evils proceed from the operation of this law ; but, in judging of its utility to Man, we should consider all its beneficial consequences, and also inquire whether, when productive of evil, the effects could or could not have been avoided by a due exercise of mental and physical power.

By pursuing this course, we shall arrive at sound conclusions concerning the adaptation of the human mind and body to the physical laws of creation. The subject is too extensive to be here prosecuted in its details, and, besides, I am incompetent to do it justice ; but what has been said will serve to elucidate the principle advocated. The more profoundly anyone inquires, the more firm will his conviction become that, in these relations, provision has been made by the Creator for human happiness, and that the evils which arise from them are attributable in a great degree to Man's failure to apply his powers to the promotion of his own enjoyment.

SECT. II.—MAN CONSIDERED AS AN ORGANISED BEING.

Man is an organised being, and subject to the organic laws. An organised being, as was formerly said, is one which derives its existence from a previously existing organised being; which subsists on food; which grows, attains maturity, decays, and dies. To render an organised being perfect in its kind, the germ from which it springs must be complete in all its parts, and sound in its whole constitution. This is the *first* organic law. If we sow an acorn in which some vital part has been destroyed, the seedling plant and the full-grown oak, if it ever attain to maturity, will be deficient in the elements which are wanting in the germ; if we sow an acorn entire in its parts, but only half ripened, or damaged in its texture by damp or other causes, the seedling oak will be feeble, and liable to premature decay. A similar law holds good in regard to man.

A *second* organic law is that the organised being, the moment it is ushered into life, and so long as it continues to live, must be supplied with food, light, air, and every other physical element which Nature has made requisite for its support, in due quantity, and of the kind suited to its particular constitution. Obedience to this law is rewarded with a vigorous and healthy development of its powers, and in animals with a pleasing consciousness of existence, and aptitude for the performance of their natural functions; disobedience leads to feebleness, general imperfection, pain, or early death. A single fact will illustrate this observation. At the meeting of the British Association held in Edinburgh in 1834, there was read an Abstract, by Dr. Joseph Clarke, of a register kept in the Lying-in Hospital of Dublin from the year 1758 to the end of 1833; from which it appeared that in 1781, when the hospital was imperfectly ventilated, every sixth child died, within nine days after birth, of convulsive disease; and that, after means of thorough ventilation had been adopted, the mortality of infants within the same time, in five succeeding years, was reduced to about one in twenty.*

A *third* organic law, applicable to Man, is that he shall duly exercise his organs: this condition being an indispensable requisite to health. The reward of obedience to this law is enjoyment in the very act of exercising the functions,

* "Report of Proceedings of the British Association," 1834, p. 685.

pleasing consciousness of existence, and the acquisition of numberless gratifications and advantages, of which labour, or the exercise of our powers, is the procuring means. Disobedience is followed by derangement and sluggishness in the functions, general uneasiness or positive pain, and the denial of gratification to numerous faculties.

Directing our attention to the constitution of the human body, we perceive that digestive organs are given to Man for his nutrition, and that innumerable vegetable and animal productions are placed around him, capable of being assimilated into his system ; also that the power of reproduction is bestowed on him, with intellect to enable him to discover and obey the conditions necessary for the transmission of a healthy organic constitution to his descendants.

Without attempting to expound minutely the organic structure of Man, or to trace in detail its adaptation to his external condition,* I shall offer some observations in support of the proposition that the due exercise of the osseous, muscular, and nervous systems, under the guidance of intellect and moral sentiment, and in accordance with the physical laws, contributes to human enjoyment ; and that this neglect of the exercise, or an abuse of it, whether by carrying it to excess, or by conducting it in opposition to the moral, intellectual, or physical laws, is followed by pain.

The Divine Being has denied to the inferior animals faculties capable of forming and executing schemes of intelligent design ; but He has constituted physical nature with such a relation to their wants that the earth produces, without their care or culture, successive crops of the food necessary for their subsistence. He has also denied to them the power of combining natural productions into raiment to shelter themselves from the cold ; but, as a compensation, He has clothed them in fur, wool, hair, or feathers. Judging from these and other displays of Divine power and adaptation, we are authorised to infer that the same Great Designer, had He seen proper, could have so constituted the earth that perennial crops of corn and fruit, of every species suitable for the sustenance of Man, should have spontaneously sprung from the ground, and could also have clothed

* The reader will find many valuable illustrations of these subjects in Dr. Andrew Combe's treatises on "Physiology applied to Health and Education," on "Digestion and Diet," and on "The Management of Infancy."

him in a vestment adapted to his structure. And yet these gifts have been withheld. Man must plough, and sow, and reap, otherwise his supplies of nutritive substances will speedily fail. He must fabricate apparel for himself, or go unclothed. But in compensation, God has bestowed on him physical and mental powers which find scope and enjoyment in labour directed by intelligence ; and in accordance with this constitution, He has presented him with fields having rich productive qualities, and seeds capable of growth and extensive multiplication. He has added constructive talents, and materials which may be spun and woven into convenient and beautiful apparel ; and has left Man to provide supplies for his own wants from the resources thus placed at his disposal.

At the first view, we might consider the animals as more fortunate than Man ; but when we learn to regard his nature and its adaptations in the light of a sound philosophy, his position in the order of creation is recognised to be far superior to theirs. The exertions which he is called on to make furnish him with pleasing occupation. This becomes the more apparent when we discover that the fertility of the earth and the demands of the body for food and clothing are so benevolently adapted to each other, that, with rational restraint on population, a few hours' labour each day from everyone capable of working would suffice to furnish all with every commodity that could really add to enjoyment.

In many of the tropical regions of the globe, where a high atmospheric temperature diminishes muscular energy, the fertility and productiveness of the soil are so largely increased that far less labour suffices for the raising of food. Less labour, also, is required to provide habitations and raiment. In the colder latitudes, the earth is more sterile, and the piercing frosts render a thicker covering necessary to protect the body ; but there muscular energy is more abundant, to meet the greater demands that are made upon it.

Further, the food afforded by the soil in each climate appears to be adapted to maintain in health the organic constitution of the people, and to supply the degree of muscular energy necessary for the particular wants of the locality. In the Arctic Regions no farinaceous food ripens ; but on the question being put to Sir John Richardson, how he, accustomed to the bread and vegetables of temperate countries, was able to relish the purely animal diet on

which he lived when visiting the shores of the Polar Sea with Sir John Franklin, he replied that the effect of the extreme dry cold to which he and his companions were exposed—living, as they did, in the open air—was to produce a desire for the most stimulating food they could obtain ; that bread in such a climate was not only not desired, but was comparatively impotent as an article of diet ; that pure animal food, and the fatter the better, was the only sustenance that maintained the tone of the system ; but that when it was abundant (and the quantity required was much greater than in milder latitudes), a delightful vigour and buoyancy of mind and body were enjoyed. In beautiful harmony with the wants of the human frame, these regions abound, during summer, in countless herds of deer, in rabbits, partridges, ducks, and other sorts of game, and also in fish ; and the flesh of these, dried, constitutes delicious food in winter, when the earth is wrapped in one wide mantle of snow.

Among the Greenlanders and other Esquimaux tribes, nothing is so much relished as the fat of the whale, the seal, or the walrus : a tallow-candle and a draught of train-oil are regarded as dainties, while a piece of bread is spit out with strong indications of disgust.

In Scotland, the climate is moist and moderately cold ; the greater part of the surface is mountainous, and well adapted for the rearing of cattle and sheep ; while a certain portion consists of fertile plains, fitted for the growth of farinaceous food. If the same law holds in this country, the diet of the people should consist of animal and farinaceous aliment, with a predominance of the former ; and on such food, accordingly, the Scotsman thrives best. As we proceed to warmer latitudes, we find in France the soil and temperature less congenial to sheep and cattle, but more favourable to corn and wine ; and the Frenchman flourishes in health on less of animal food than would be requisite to preserve the Scottish Highlander, in the recesses of his mountains, in a strong and alert condition. From one of a series of interesting letters on the agriculture of France by M. Lullin de Chateauvieux, published in the "Bibliothèque Universelle," it appears that when he wrote the consumption of beef in that country, relatively to the population, was only one-sixth of what it is in England.*

* "Quarterly Journal of Agriculture," Vol. I., p. 390 ; Edin., 1829.

The plains of Hindostan are too hot for the extensive rearing of sheep and oxen, but produce rice and vegetable spices in abundance ; and the native is healthy, vigorous, and active when supplied with rice and curry, and becomes sick when obliged to live chiefly on animal diet. He is supplied with less muscular energy by this species of food ; but his soil and climate require less laborious exertion to maintain him in comfort than do those of Britain, Germany, or Russia.

So far, then, the external world appears to be wisely and benevolently adapted to the organic system of Man : that is, to his nutrition, and to the development and exercise of his corporeal organs. The natural law appears to be that everyone who desires to enjoy the pleasures of health must expend in labour the energy which the Creator has infused into his limbs. A wide choice is left to Man as to the *mode* in which he shall exercise his nervous and muscular systems : the labourer, for example, digs the ground, and the squire engages in the chase ; both pursuits exercise the body. The penalties for neglecting this law are imperfect digestion, disturbed sleep, debility, bodily and mental lassitude, and, in extreme cases, confirmed bad health and early death. The consequences of over-exerting these systems are exhaustion, mental incapacity, the desire for strong artificial stimulants (such as ardent spirits), general insensibility, grossness of feeling and perception, with disease and shortened life.

Society has not recognised this law, and, in consequence, the higher orders despise labour and suffer the first evil, while the lower orders are oppressed with toil and undergo the second. These natural consequences serve to provide motives for obedience to the law ; and when they are discovered to be inevitable, men will no longer shun labour as painful and ignominious, but will resort to it as a source of pleasure and advantage.

SECT. III.—MAN CONSIDERED AS AN ANIMAL, MORAL, AND INTELLECTUAL BEING.

I have adverted to the bodily constitution of Man, which is essentially animal ; but I observe, in the third place, that Man, viewed in regard to his mental constitution, is an animal, moral, and intellectual being. To discover the

adaptation of the mental parts of his nature to his external circumstances, we must first know what are his various animal, moral, and intellectual powers themselves. Philosophers and divines have long disputed about the number and functions of the human faculties: and while each assumed his own consciousness as the standard of nature, and occupied himself chiefly with observations on its phenomena as his means of study, there could be no end to their discussions. It is disputed, also, whether Man be now in possession of the same qualities as those with which he was created: but if mental organs exist at all, they have been bestowed by the Creator; and if we discover their functions, and distinguish their uses from their abuses, we shall obviously obtain clearer views of what God has instituted, and of the extent to which Man himself is chargeable with error and perverseness, than could be arrived at by the means previously employed. If, therefore, any reader be disposed to question the existence of such qualities in Man as I am about to describe—to do so consistently, he should be prepared to deny, on reasonable grounds, that mental organs exist. He is, of course, at liberty to reject both, if, through aversion to the study, or any other cause, he is unacquainted with the evidence, or if he considers it insufficient. According to this view, then, the human faculties are the following:—

ORDER I.—PROPENSITIES.

Feelings common to Man with the Lower Animals.

THE LOVE OF LIFE.

1. AMATIVENESS.—Produces sexual love.
2. PHILOPROGENITIVENESS.—*Uses*: Affection for young and tender beings.—*Abuses*: Pampering and spoiling children.
3. CONCENTRATIVENESS.—*Uses*: It concentrates and renders permanent emotions and ideas in the mind.—*Abuses*: Morbid dwelling on internal emotions and ideas, to the neglect of external impressions.
4. INHABITIVENESS.—*Uses*: It produces the desire of permanence in place.—*Abuses*: Aversion to move abroad.
5. ADHESIVENESS.—*Uses*: Attachment; friendship and society result from it.—*Abuses*: Clanship for improper objects, attachment to worthless individuals. It is generally strong in women.
6. COMBATIVEIVENESS.—*Uses*: Courage to meet danger and overcome difficulties; tendency to defend, to oppose and attack,

and to resist unjust encroachments.—*Abuses*: Love of contention, and tendency to provoke and assault. This feeling obviously adapts Man to a world in which danger and difficulty abound.

7. **DESTRUCTIVENESS.**—*Uses*: Desire to destroy noxious objects, animate and inanimate, and to use for food animals in which life has been destroyed.—*Abuses*: Cruelty, murder, desire to torment, tendency to passion, rage, and harshness and severity in speech and writing. This feeling places man in harmony with death and destruction, which are woven into the system of sublunary creation.
8. **APPETITE FOR FOOD.**—*Uses*: Nutrition.—*Abuses*: Gluttony and drunkenness.
9. **SECRETIVENESS.**—*Uses*: Tendency to restrain within the mind the various emotions and ideas that involuntarily present themselves, until the judgment has approved of giving them utterance; it is simply the propensity to conceal, and is an ingredient in prudence.—*Abuses*: Cunning, deceit, duplicity, and lying.
10. **ACQUISITIVENESS.**—*Uses*: Desire to possess and tendency to accumulate; the sense of property springs from it.—*Abuses*: Inordinate desire of property, selfishness, avarice, theft.
11. **CONSTRUCTIVENESS.**—*Uses*: Desire to build and to construct works of art.—*Abuses*: Construction of engines to injure or destroy with cruelty, and fabrication of objects to deceive mankind.

ORDER II.—SENTIMENTS.

(1.) *Sentiments common to Man with some of the Lower Animals.*

1. **SELF-ESTEEM.**—*Uses*: Self-respect, self-interest, love of independence, personal dignity.—*Abuses*: Pride, disdain, overweening conceit, excessive selfishness, love of dominion.
2. **LOVE OF APPROBATION.**—*Uses*: Desire of the esteem of others, love of praise, desire of fame or glory.—*Abuses*: Vanity, inordinate ambition, thirst for praise independently of praiseworthiness.
3. **CAUTIOUSNESS.**—*Uses*: It gives origin to the sentiment of fear, the desire to shun danger, and circumspection; and it is an ingredient in prudence. The sense of security springs from its gratification.—*Abuses*: Excessive timidity, poltroonery, unfounded apprehensions, despondency, melancholy.
4. **BENEVOLENCE.**—*Uses*: Desire of the happiness of others, compassion for the distressed, universal charity, mildness of disposition, and a lively sympathy with the enjoyment of all animated beings.—*Abuses*: Profusion, injurious indulgence of the appetites and fancies of others, facility of temper.

(2.) *Sentiments Proper to Man.*

5. VENERATION.—*Uses* : Tendency to venerate or respect whatever is great and good ; it gives origin to religious emotion.—*Abuses* : Senseless respect for unworthy objects consecrated by time or situation, love of antiquated customs, abject subserviency to persons in authority, superstitious awe ; “undue deference to the opinions and reasonings of men who are fallible like ourselves ; the worship of false gods, polytheism, paganism, idolatry.”
6. FIRMNESS.—*Uses* : Determination, perseverance, steadiness of purpose.—*Abuses* : Stubbornness, infatuation, tenacity in evil.
7. CONSCIENTIOUSNESS.—*Uses* : It gives origin to the sentiment of justice, a respect for rights, openness to conviction, the love of truth.—*Abuses* : Scrupulous adherence to noxious principles when ignorantly embraced, excessive refinement in the views of duty and obligation, excess in remorse or self-condemnation.
8. HOPE.—*Uses* : Tendency to expect future good ; it cherishes faith.—*Abuses* : Credulity with respect to the attainment of what is desired, absurd expectations of felicity not founded on reason.
9. WONDER.—*Uses* : The desire of novelty ; admiration of the new, the unexpected, the grand, the wonderful, and extraordinary.—*Abuses* : Love of the marvellous and occult ; senseless astonishment ; belief in false miracles, in prodigies, magic, ghosts, and other supernatural absurdities. *Note*.—Veneration, Hope, and Wonder, combined, give origin to religion ; their abuses produce superstition.
10. IDEALITY.—*Uses* : Love of the beautiful, desire of excellence, poetic feeling.—*Abuses* : Extravagant and absurd enthusiasm ; preference of the showy and glaring to the solid and useful ; a tendency to dwell in the regions of fancy and to neglect the duties of life.
11. WIT—Gives the feeling of the ludicrous, and disposes to mirth.
12. IMITATION—Copies the manners, gestures, and actions of others, and appearances in nature generally.

ORDER III.—INTELLECTUAL FACULTIES.

(1.) *External Senses.*

1. FEELING or TOUCH.
2. TASTE.
3. SMELL.
4. HEARING.
5. SIGHT.

Uses : To bring Man into communication with external objects, and to enable him to enjoy them.—*Abuses* : Excessive indulgence in the pleasures arising from the senses, to the extent of impairing bodily health and debilitating or deteriorating the mind.

(2.) *Knowing Faculties which perceive the Existence and Qualities of External Objects.*

1. INDIVIDUALITY—Takes cognisance of existence and simple facts.
2. FORM—Renders Man observant of form.
3. SIZE—Gives the idea of space, and enables us to appreciate dimension and distance.
4. WEIGHT—Communicates the perception of momentum, weight, and resistance, and aids equilibrium.
5. COLOURING—Gives perception of colours, their harmonies and discords.

(3.) *Knowing Faculties which perceive the Relations of External Objects.*

1. LOCALITY—Gives the idea of relative position.
2. NUMBER—Gives the talent for calculation.
3. ORDER—Communicates the love of physical arrangement.
4. EVENTUALITY—Takes cognisance of occurrences or events.
5. TIME—Gives rise to the perception of duration.
6. TUNE—The sense of melody and harmony arises from it.
7. LANGUAGE—Gives facility in acquiring a knowledge of arbitrary signs to express thoughts, readiness in the use of them, and the power of inventing and recollecting them.

(4.) *Reflecting Faculties which Compare, Judge, and Discriminate.*

1. COMPARISON—Gives the power of discovering analogies, resemblances, and differences.
2. CAUSALITY—Traces the dependences of phenomena, and the relation of cause and effect. *

* In his "System of Phrenology," fifth edition, pp. 149, 285, 436, the author admits that some of the details of this classification (which is borrowed from Dr. Spurzheim) are open to objection. The time does not seem to have yet arrived when a perfect arrangement and nomenclature of the mental faculties will be possible. Nevertheless, the classification here given will be found very convenient; and probably few intelligent persons who have had much experience of human character will dispute the existence of a great majority of the faculties enumerated, even if doubting the sufficiency of the evidence for their connection with those parts of the brain to which phrenologists assign them.—ED.

CHAPTER III

THE FACULTIES IN OPERATION.

SECT. I.—THE FACULTIES OF MAN IN RELATION TO ONE ANOTHER.

ACCORDING to the theory of human nature described in the last chapter, the faculties are divided into Propensities common to Man with the Lower Animals ; Sentiments proper to Man ; and Intellect. Almost every faculty stands in a definite relation to certain external objects : when it is internally active, it desires these objects ; when they are presented to it, they excite it to action, and delight it with agreeable sensations. Human happiness is resolvable into the gratification, and misery into the uneasiness, of one or more of our mental faculties, those of bodily sensation included. Every faculty is good in itself, but all are liable to be abused.

The faculties may act in a variety of combinations. *1st*, The lower propensities may act by themselves, each seeking its own gratification, without transgressing the limits prescribed by enlightened intellect and the moral sentiments : this gratification is legitimate, and the fountain of much enjoyment.

2dly, The propensities may act in opposition to the dictates of the moral sentiments and the intellect : a merchant, for instance, by misrepresentation of the real qualities of his commodities, may obtain a higher price for them than if he spoke the truth ; or, by depreciating unjustly the goods of a rival, he may attract that rival's customers to himself. By such conduct he would apparently benefit himself, but he would infringe the dictates of the moral sentiments and the intellect ; in other words, he would do an injury to his customers or to his rival, proportionate to the undue benefit which he attempted to secure to himself. All such manifestations of the propensities are abuses, and, when traced to their results, are found to ultimately injure the man who practises them even more than him against whom they are directed.

3dly, The moral sentiments may act by themselves, each seeking its own gratification : thus benevolence may

prompt a person to do acts of kindness, and veneration to perform exercises of devotion. When the gratification sought by any one or more of the sentiments does not infringe the duties prescribed by all the other faculties, the actions are proper. But any one moral sentiment, acting by itself, may run into excess—benevolence, for instance, may lead to profusion, or to the practice of generosity at the expense of justice ; veneration may prompt a person to frequent churches to the neglect of his domestic duties ; and so forth.

Thus there is, first, a wide sphere of action provided for the propensities, in which each may find its gratification without transgressing the limits of morality : and this is a good and proper action ; secondly, there is ample scope for the exercise of each of the moral and intellectual faculties, without infringing the dictates of any of the other faculties : and this action also is good. But, on the other hand, the propensities, and also the moral and the intellectual faculties, may act, singly or in groups, in opposition to the dictates of all the other powers enlightened by knowledge and acting in combination : and all such actions are wrong.

Hence, right conduct is *that which is approved of by the whole faculties, sufficiently enlightened, and acting in harmonious combination.* When conflict, however, arises between the desires of the different faculties, the dictates of the moral and intellectual, as superior in kind to those of the animal faculties, must be obeyed, otherwise misery will ensue ; and this I call the supremacy of the moral sentiments and the intellect.

When conflict arises, I do not consider any of the moral sentiments and intellectual faculties singly, or even the whole of them collectively, as sufficient to direct conduct by their mere impulsive suggestions. To fit them to discharge this important duty, they must act in harmonious combination with each other, and be illuminated by knowledge of physical and moral science, and of the nature and legitimate spheres of action of the propensities. The sources of knowledge are observation, experience, and reflection ; also instruction by books, teachers, and all other means which the Creator has provided for the improvement of the human mind. Whenever the dictates of the moral and intellectual faculties, thus combined and enlightened, oppose the solicitations of the propensities, the latter must yield—otherwise, by the constitution of nature, evil will inevitably ensue.

This is what I mean by nature's being constituted in harmony with the whole faculties of Man ; the moral sentiments and the intellect, in case of conflict, holding the supremacy.

Experience shows that different men possess the faculties in different degrees : I do not mean, therefore, to say that in each individual the dictates of *his* animal, moral, and intellectual powers, acting in harmonious combination, are rules of conduct not to be disputed. On the contrary, in most men one or several of the faculties are so deficient or so excessive, in proportion to the others, that their perceptions of duty will differ from the highest standards. The dictates, therefore, of the animal, moral, and intellectual powers, acting in harmonious combination, which constitute rules of conduct, are the collective dictates of the best-endowed and best-balanced minds, illuminated by the greatest knowledge.

Let us now consider the faculties themselves. First, I shall view the PROPENSITIES acting alone, uninfluenced by the moral and the intellectual powers. There is ample scope for their proper activity in this way ; but the great distinction between the animal faculties and the powers proper to Man is, that the former do not prompt us to seek the welfare of mankind at large : their object is chiefly the preservation of the individual himself, his family, or his tribe ; while the latter have the general happiness of the human race, and our duties to God, as their ends.

THE LOVE OF LIFE and THE APPETITE FOR FOOD clearly have reference to the preservation of the individual alone.

Even the domestic affections, amiable and respectable as they undoubtedly are, have self-gratification as their chief object. The first three propensities, AMATIVENESS, PHILOPROGENITIVENESS, and ADHESIVENESS, or the group of the domestic affections, desire a conjugal partner, offspring, and friends ; the obtaining of these affords them delight—the removal of them occasions pain. But they do not take an interest in the welfare of their objects on account of those objects. He who loves from amativeness alone is sensual, faithless, and negligent of the happiness of his partner. He who combines with this propensity benevolence, veneration, justice, and intellect will disinterestedly promote the real happiness of the object of his affection.

To realise happiness, the whole faculties must be gratified harmoniously, or at least the gratification of one or more of

them must not offend the dictates or desires of any of the others. For example, suppose the domestic affections of a woman to be highly interested in someone, and strongly to desire an alliance with him, but that he is improvident and immoral, and altogether an object of whom the higher faculties, acting by themselves, cannot approve—then, if marriage take place, bitter days of repentance will necessarily follow, when the lower feelings will languish through satiety, and his qualities will give offence to the moral powers. If, on the other hand, the domestic affection be guided to an object pleasing to the higher sentiments, these themselves will be gratified ; they will double the delights afforded by the inferior faculties, and will render the enjoyment permanent.

The love of children is like that of the miser for his gold : an interest in the object, for the sake of the gratification which it affords, without desiring or distinguishing what is good for the object on its own account. This is recognised by Sir Walter Scott, in his character of Elspath : “ Her ardent, though selfish affection for her son, incapable of being qualified by a regard for the true interests of the unfortunate object of her attachment, resembled the instinctive fondness of the animal race for their offspring ; and diving little further into futurity than one of the inferior creatures, she only felt that to be separated from Hamish was to die.”*

In Man, this faculty generally acts along with benevolence ; and a disinterested desire for the happiness of the child mingles with, and elevates, its mere instinctive impulses : but the sources of these affections are different, their degrees vary in different persons, and their ends also are dissimilar. This is exemplified every day by the conduct of mothers, who, although actuated by an intense love of their offspring, nevertheless spoil them by vicious indulgence, and render them miserable. If philoprogenitiveness were capable, singly, of desiring and perceiving the real welfare of children, the treatment of them would, in all cases, be rational and beneficial, in proportion to the vigour and activity of this faculty ; but the fact is otherwise.

The same observation applies to the affection proceeding from **ADHESIVENESS**. When this faculty acts alone, it desires, for its own satisfaction, a friend to be loved ; but it

* “ *The Highland Widow*,” chap. iv.

is not, from its own impulses, interested in the welfare of its object. It feels attached to him as a sheep does to its fellows of the flock ; but if benevolence do not act along with it, it does nothing for the happiness of that friend. Both adhesiveness and philoprogenitiveness tend to excite benevolence towards their objects ; when the former sentiment, however, is naturally very weak, the propensities cannot render it vividly active. The horse feels melancholy when his companion is removed ; but the feeling appears to be simply one of uneasiness at the absence of an object which gratified his adhesiveness. His companion may have been led to a richer pasture or introduced to more agreeable society ; yet this does not assuage the distress suffered by him at his removal : his tranquillity is restored only by time causing the activity of adhesiveness to subside, or by the substitution of another object on which it may expend itself.

In human nature, the effect of the faculty, when acting singly, is similar. If two persons, elevated in rank and possessed of affluence, have each adhesiveness, self-esteem, and love of approbation strong, with benevolence and conscientiousness moderate, it is obvious that while both are in prosperity they may really like each other's society, and feel a reciprocal attachment, because there will be mutual sympathy in their adhesiveness, and the self-esteem and love of approbation of each will be gratified by the rank and creditable circumstances of the other. But imagine one of them to fall into misfortune, and to cease to be an object gratifying to self-esteem and love of approbation ; suppose that he becomes a poor friend instead of a rich and influential one : the harmony between their selfish faculties will be broken, and then adhesiveness in the one who remains rich will transfer its affection to another person who may at once gratify it, and supply agreeable sensations to self-esteem and love of approbation—to a genteel friend, in short, who will look well in the eye of the world.

Much of this conduct occurs in society, and the complaint is very ancient that the storms of adversity rend friendships asunder, as the wintry blasts strip from the tree the leaves that adorned it in summer ; and in consequence many moral sentences have been pointed, and epigrams have been finely turned, on the selfishness and corruption of poor human nature. But such friendships are attachments founded on the lower feelings, which, by their constitution,

do not regard the welfare of others ; and the desertion complained of is the natural result of the principles on which both parties acted during the gay hours of prosperity.

Sheridan, for example, possessed strong adhesiveness, self-esteem, and love of approbation, with little causality and moderate conscientiousness. He had individuality, secretiveness, and imitation, which gave him talents for observation and display. When these earned him a brilliant reputation, he was surrounded by friends, and he himself probably felt attachment in return. But he was deficient in morality, and not disposed to love his friends with a true, disinterested, and honest regard. He abused their kindness, and when he sank into poverty and wretchedness, and ceased to be an honour to them, all who were constituted like himself deserted him. But the whole connection was founded on selfish principles : Sheridan honoured them, and they flattered Sheridan ; and the abandonment was the natural consequence of the cessation of gratification of their selfish feelings. I shall by-and-by speak of the sources of a loftier and purer friendship, and its effects. Some of his intimates, who acted from adhesiveness combined with the higher feelings, remained attached to him through all his misfortunes.

COMBATIVENESS and DESTRUCTIVENESS also, when acting alone, or in combination with the other propensities, do not in their own nature seek the happiness of others. If aggression be committed against us, combativeness shows the front of opposition and repels the attack ; destructiveness inflicts pain or injury, to make the aggressor desist, or it takes vengeance on him for the offence. Both feelings are obviously very different from benevolence. I do not say that in themselves they are bad ; on the contrary, they are necessary, and, when legitimately employed, are highly useful ; but still their first and instinctive object is the preservation of self.

SECRETIVENESS suppresses the display of feelings when improper to be manifested, and restrains the utterance of thoughts which ought to be concealed. It also gives the desire to find out secrets, in order to guard against hostile plots or designs. In itself, it does not desire, in any respect, the benefit of others.

The next faculty is ACQUISITIVENESS. It desires to possess property, is pleased with accumulating, and suffers uneasiness in being deprived of, its acquisitions ; but its

object is not the happiness of others. Like all the other faculties, however, it is highly useful ; for even benevolence cannot give away until acquisitiveness has gained. There are friendships, particularly among mercantile men, founded on adhesiveness and acquisitiveness, just as in fashionable life they are founded on adhesiveness and love of approbation. Two men fall into a course of dealing by which each reaps profit from transactions with the other : this leads to intimacy ; adhesiveness mingles its influence, and a feeling of attachment is produced. The moment, however, that the acquisitiveness of the one suffers the least inroad from that of the other, and their interests clash, they are apt, if no higher principle unite them, to become bitter enemies.

While these fashionable and commercial friendships last, the parties may profess reciprocal esteem and regard, and when a rupture takes place, the one who is depressed or disengaged may recall these expressions, and charge the other with hypocrisy. In truth, however, they were not uttered in sincerity. From adhesiveness and gratified love of approbation or acquisitiveness, each probably has felt something which he fancied to be disinterested friendship ; but if each would honestly probe his own conscience, he would be obliged to acknowledge that the whole basis of the connection was selfish, and that the result was what should be expected by every man who places his reliance for happiness chiefly on the lower feelings.

The sentiment of SELF-ESTEEM is, in its very essence and name, selfish : it is the love of ourselves and the esteem of ourselves *par excellence*.

LOVE OF APPROBATION, although many think otherwise, does not in itself desire the happiness of others. Its object is applause to ourselves, to be esteemed ourselves ; and if it prompt us to do services to others, or to say agreeable things to them, this is not from love of *them*, but for the sake of obtaining the self-gratification afforded by their good opinion.

If we are acquainted with a person who has committed an error—who has done or said something that the public disapproves of, and which we see to be wrong—benevolence and conscientiousness would prompt us to lay before our friend the very head and front of his offending, and conjure him to forsake his error, and make amends ; love of approbation, on the other hand, would simply desire to gain his applause by making ourselves agreeable to him, without

looking further. If ill-regulated, it would either render us averse to speak to him at all on the subject, lest he should be offended ; or it would prompt us to extenuate his fault, to gloss it over, and to represent it either as a simple mistake or as extremely trivial. If we analyse the motive which prompts to this course, we shall find that it is neither love of our friend nor consideration for his welfare, but fear lest, by our presenting to him disagreeable truths, he should feel offended with us, and deprive us of the gratification afforded by his good opinion.

Another illustration may be given. A manufacturer in a country town, having acquired a considerable fortune by trade, applied part of it in building a princely mansion, which he furnished in the richest style of fashion. He invited his customers, near and distant, to visit him, and introduced them into an apartment that dazzled them with splendour. This excited their curiosity and wonder—which was precisely the effect he desired ; he then led them over his whole suite of rooms, and displayed before them his grandeur and taste. In doing so, he affected to act as if he were conferring a gratification on them, and believed that he was filling their minds with an intense admiration of his greatness ; but the real effect was very different. The motive of his conduct was not love of them, or regard for their happiness or welfare ; it was not benevolence to others that prompted him to build the palace : it was not veneration ; it was not conscientiousness. The fabric sprang from self-esteem and love of approbation, combined, no doubt, with considerable intellect and ideality. In leading his humble brethren in trade through the princely halls, over the costly carpets, and amid the gilded mirrors and rich array that everywhere met their eyes, he exulted in the consciousness of his own importance, and asked for their admiration, not as an expression of respect for any real benefit conferred upon them, but as the much-relished food of his own selfish vanity.

But what would be the effect of this display on those to whom it was made ? To gain their esteem or affection, it would have been necessary to manifest towards them benevolence, respect, and justice ; for to cause another to love us, we must make him the object of our moral sentiments, which have his good and happiness for their aim. Here, however, these were not the inspiring motives, and the want of them would be instinctively felt. The visitors who

possessed any shrewdness would ascribe the whole exhibition to the vanity of the owner, and they would either pity him, or envy and hate him : if their own moral sentiments predominated, they would pity him ; if their self-esteem and love of approbation were paramount, they would envy his magnificence, would be offended at his superiority in luxury, and would hate him. Only the silliest and the vainest would be at all gratified ; and their satisfaction would arise from the feeling that they could now return to their own circle and boast how great a friend they had, and in how grand a style they had been entertained—this display being a direct gratification of their own self-esteem and love of approbation by identifying themselves with him. Even this pleasure would exist only where the admirer was so humble in rank as to entertain no idea of rivalship, and was so limited in intellect and morality as not to perceive the worthlessness of the qualities by which he was captivated.

To be successful in gratifying our friends, we must keep our own selfish faculties in due subordination, and pour forth copious streams of real kindness from the higher sentiments, animated and elevated by intellect ; and none who have experienced the heartfelt joy and satisfaction attending entertainments conducted on this principle will ever quarrel with the homeliness of the fare, or feel uneasy about the absence of fashion in the service.

CAUTIOUSNESS, the next faculty, is a sentiment instituted to prompt us to shun danger. Acting apart from the moral sentiments, it seeks to protect self from evil ; and this is its essential object.

This terminates the list of Feelings common to Man with the Lower Animals,* which, as we have seen, when acting impulsively, either singly or in combination with each other, apart from the moral powers, do not seek the welfare of others as their aim, but have self-preservation and self-gratification as their leading objects. They are given for the protection and advantage of our individual nature, and when manifested in their proper spheres, are

* Benevolence is held to be common to Man with the lower animals ; but in these creatures it appears to produce rather passive meekness and good nature than desire for each other's happiness. In the human race, this last is its proper function ; and viewed in this light, I treat of it as exclusively a human faculty.

highly useful, and also respectable, viewed with reference to that end. Their action is then also in harmony with the dictates of the moral sentiments; but they are sources of innumerable evils when they are allowed to usurp the ascendancy over these powers, and to become the mainsprings of our conduct. Their action appears to be the same in kind in Man and in the lower animals. We do not regard a cow in suckling her calf, or a dog in defending his bone, as manifesting moral feelings. We approve of these and other manifestations of the propensities in the lower animals, because they are suited to their nature and circumstances; but the notion of morality springs from the higher sentiments, which are superior in kind to the propensities.

I now proceed to notice the higher SENTIMENTS, and to point out their object and their relations.

BENEVOLENCE has direct reference to other beings. If they are miserable, it feels compassion for them, and desires to relieve them. It purely and disinterestedly desires the happiness of its objects: it loves for the sake of the person beloved: if he be well, and the sunbeams of prosperity shine warmly around him, it exults and delights in his felicity. It desires a diffusion of joy, and renders the feet swift and the arms strong in the cause of charity and love. By the beneficence of the Creator, it is, when gratified, the source of great enjoyment to its possessor; insomuch that some authors have asserted that men are benevolent for the sake of this pleasure. But that is not the case. The impulse is instinctive, and acts before the intellect has anticipated the result.

VENERATION also has reference to others. It looks up with a pure and elevated emotion to the beings to whom it is directed, whether God or our fellow-men, and delights in the contemplation of their great and good qualities. Combined with moderate self-esteem, it renders self humble and submissive. God is its highest object.

HOPE spreads its gay wing in the boundless regions of futurity. It expects good, "incites us, indeed, to aim at a good which we can live without;" but its influence is soft, soothing, and happy. When combined with the propensities, it expects good to self; when with the moral sentiments, it anticipates universal happiness.

IDEALITY delights in perfection from the pure pleasure of

contemplating it. So far as it is concerned, the picture, the statue, the landscape, or the mansion, on which it abides with the intensest rapture, although the property of another, is as pleasing as if it were all its own. It is a spring that is touched by the beautiful wherever it exists ; and hence its means of enjoyment are as unbounded as the universe.

WONDER seeks the new and the striking, and is delighted with change ; but there is no desire of appropriation to self in its longings.

CONSCIENTIOUSNESS stands in the midway between self and others. It implies the existence both of selfish and of social tendencies in man, for one of its functions is to regulate their contending solicitations. It is a regulator both of our animal and of our moral feelings, and, aided by intellect, it serves to point out the limits which they must not pass. It desires to do to others as we would have them to do to us, and is the guardian of the welfare of our fellow-men, while it sanctions and supports our personal feelings within the bounds of justice. It is a noble feeling ; and the mere consciousness of its being bestowed upon us ought to bring home to our minds the intense conviction that the Author of the universe, from whom it springs, is at once wise and just.

Among the sentiments now enumerated, benevolence, veneration, and conscientiousness are distinguishable as *the moral sentiments*. These, like the others, may be erroneously directed or may act in excess, and in either case may give rise to abuses, such as profusion, superstition, and excessive scrupulosity. But the grand distinction between them and the propensities is this: The propensities, acting even legitimately—singly, or in combination with each other, but not in combination with the moral sentiments—have individual interests for their direct objects, and do not actively desire the happiness of other beings for the sake of those beings themselves: the actions of the lower animals afford illustrations in point.

The moral powers, on the other hand, acting in harmonious combination with each other, and directed by enlightened intellect, desire the welfare or the honour of other beings as their direct object: the purest and the best of men afford in their conduct examples of the truth of this remark. It is not this distinction alone, however, which confers a moral character on some of the sentiments. There is an inherent difference in kind between them and

the propensities, which is felt by those who possess both. In cases of conflict, the superiority is recognised as belonging to the moral faculties by their natural constitution.

INTELLECT is universal in its applications. It may become the handmaid of any of the faculties ; it may devise a plan to murder or to bless, to steal or to bestow, to rear up or to destroy ; but as its proper use is to observe the different objects of creation, to mark their relations, and to direct the propensities and sentiments to their proper and legitimate enjoyments, it has a boundless sphere of action, and when properly exercised and applied is a source of high and inexhaustible delight.

The world is so constituted, that all necessary and really advantageous gratifications of the propensities are compatible with the dictates of the moral sentiments and the intellectual powers ; so that scope is afforded to all the faculties to act in harmonious combination. As a counterpart to this arrangement, all gratifications of the propensities which are disapproved of by the higher powers are, in their ultimate consequences, hurtful to the individual himself. In like manner, all manifestations of the moral sentiments, when acting in harmonious combination, and when directed by enlightened intellect, although they tend directly to the welfare of others, indirectly contribute also to the enjoyment of the virtuous agent.

Keeping in view the great difference now pointed out between the lower and the higher faculties, we shall find that three consequences follow from the constitution of these powers.

1st, All the faculties, when in excess, are insatiable, and, from the constitution of the world, never can be satisfied. They indeed may be soon satisfied on any particular occasion. Food will soon blunt the appetite ; success in speculation will render acquisitiveness quiescent for the moment ; a triumph will satisfy for the time self-esteem and love of approbation ; a long concert will fatigue the faculty of tune ; and a tedious discourse will afflict causality. But after repose they will all *renew their solicitations*. They must all, therefore, be regulated in their action, particularly the propensities and lower sentiments. These, having self for their primary object, and being blind to consequences, do not set limits to their own indulgence ; and when allowed to exceed the boundaries prescribed by the superior

sentiments and the intellect, lead directly to misery to the individual, and to injury to society.

These animal faculties, therefore, must be restrained, and must be directed in the pursuit of gratification by the moral sentiments and by the intellect.

2dly, The animal propensities being inferior in their nature, their gratification, when not approved of by the moral sentiments and the intellect, leaves a painful feeling of discontent and dissatisfaction in the mind, occasioned by the secret disapproval of their excessive action by the higher feelings. Suppose, for example, a young person to commence active life with ardent wishes to acquire wealth and to attain honour and distinction. Imagine him to rise early and sit up late, and to put forth all the energies of a powerful mind in buying and selling, and in becoming rich. It is obvious that benevolence, veneration, and conscientiousness would have but a small share in prompting him to this course of action, and that in pursuing it they would have received little direct gratification. They must have anxiously watched the animal faculties, longing for the hour when these should say, Enough; their whole occupation, in the meantime, being to restrain them from such gross excesses as would have defeated their own ends.

Suppose, then, this ambitious man to have reached the evening of life, and to look back on the pleasures and pains of his career; he must feel that there has been much of vanity and vexation of spirit. The highest of his faculties have not supplied the motives of his conduct, and have received no adequate satisfaction. The fault, however, is his own; love, esteem, and cordial regard arise, by the Creator's laws, from contemplating, not the selfish faculties, but benevolence, veneration, and justice, as the motives of human conduct. He has reaped the natural produce of the soil which he cultivated, and of the seeds which he sowed.

3dly, The higher feelings, when acting in harmonious combination, and directed by enlightened intellect, have a boundless scope for gratification. Their least indulgence is delightful, and their highest activity is bliss; they cause no repentance, leave no void, but render life a scene at once of peaceful tranquillity and of sustained felicity. What is of much importance, conduct proceeding from their dictates carries in its train the highest gratification to the animal propensities themselves of which these are susceptible. At the same time, it must be remembered that the higher

sentiments also err and lead to evil when not regulated by enlightened intellect ; that intellect, in its turn, must give due weight to the existence and desires of both the propensities and the sentiments, as elements in the human constitution, before it can arrive at sound conclusions regarding conduct ; and that rational actions and true happiness flow from the gratification of all the faculties *in harmony* with each other —the moral sentiments and intellect, in cases of conflict, bearing the directing sway.

Let us trace, then, the effects which, in this state of things, would be produced. Suppose a friendship formed by a man whose principles of conduct included benevolence : this man would desire his friend's welfare for the friend's sake. Next, veneration, acting along with intellect, would reinforce this love, by the conviction that it was entirely conformable to the law of God, and would be acceptable in His sight. It would also produce habitual deference toward the friend himself, which would render his manner pleasing to the friend, and his deportment yielding and accommodating in all things proper to be forbore or done. Thirdly, conscientiousness, ever on the watch, would proclaim the duty of making no unjust demands on the good nature of the friend, but of limiting the whole intercourse with him to an interchange of kindness, good offices, and reciprocal affection. Intellect, acting along with these sentiments, would point out, as an indispensable requisite to such an attachment, that the friend himself should be so far under the influence of the moral sentiments as to be able, in some degree, to satisfy them ; for if he were immoral, selfish, vainly ambitious, or, in short, under the habitual influence of the propensities and the lower sentiments, it would be impossible for the man of pure and noble character to love or to respect him.

Let us now consider how far such a friendship would gratify the propensities. In the first place, how would adhesiveness rejoice in such an attachment ? Because, if the intellect were convinced that the friend habitually acknowledged the supremacy of the higher sentiments, adhesiveness might pour forth all its ardour, and cling to its object with the closest bonds of affection. The friend would never encroach on us for evil, because his benevolence and justice would oppose this ; he would not lay aside restraint, and break through the bonds of affection by undue familiarity, because veneration would forbid this ; he would not injure

us in our name, person, or reputation, because conscientiousness, veneration, and benevolence, all combined, would prevent such conduct.

Here, then, adhesiveness freed from the fear of evil, of deceit, and of dishonour (because such a friend could not fall into dishonour), would be at liberty to take its deepest draught of affection : it would receive a gratification which would be unattainable if it acted only in combination with the purely selfish faculties. What delight, too, would such a friendship afford to self-esteem ! There would be a legitimate approval of ourselves, arising from a survey of pure motives and just and benevolent actions. Love of approbation, also, would be gratified in the highest degree : for every act of affection, every expression of esteem, from such a friend, would be so purified by benevolence, veneration, and conscientiousness, that it would form the legitimate food on which love of approbation might feast and be satisfied : it would fear no hollowness beneath, no tattling in absence, no secret smoothing over the surface for the sake of mere effect : no envyings, no jealousies. In a word, friendship founded on the higher sentiments as the ruling motives would delight the mind with gladness and sunshine, and harmoniously gratify all the faculties, animal, moral, and intellectual.

From this illustration, the reader will understand more clearly what I mean by the harmony of the faculties. The fashionable and commercial friendships of which I spoke, gratified adhesiveness, love of approbation, self-esteem, and acquisitiveness, but left out, as fundamental principles, all the higher sentiments. There was therefore, in those instances, a want of harmonious gratification to the whole faculties, which want gave rise to a feeling of the absence of full satisfaction ; it permitted only a mixed and imperfect enjoyment while the friendship lasted, and induced a feeling of painful disappointment, or of vanity and vexation, when a rupture occurred. The error, in such cases, consists in founding attachment on the lower faculties (seeing that they, by themselves, are not calculated to form a stable basis of affection), instead of building it on them and the higher sentiments together, which afford a foundation that is at once real, lasting, and satisfactory. In complaining of the hollowness of attachments springing from the lower faculties exclusively, we are like men trying to erect a pyramid on its smaller end, and then speaking of

the unkindness of Providence and the hardness of their own fate when it falls.

A similar examination of all other pleasures founded on the animal propensities chiefly would exhibit similar results. Happiness, therefore, I repeat, results from the harmonious action of all the faculties; the moral sentiments and intellect, in cases of conflict, exercising the directing and controlling sway.

Many men, on arriving at the close of life, complain that all its pursuits and enjoyments have proved to be vanity and vexation of spirit; but, to my mind, this is just an intimation that the plan of their lives has been selfish, and that they have sought for pleasure, not in the legitimate uses, but in abuses of their faculties. I cannot conceive that at the hour of death the mind should feel all acts of kindness done to others during life—all exercises of devotion performed in a right spirit—all deeds of justice executed—all rays of knowledge disseminated—as vain, unprofitable, and unsatisfying. On the contrary, such actions appear to me to be those which the mind would then rejoice to pass in review, as having constituted the occupation and enjoyment of life.

SECT. II.—THE FACULTIES OF MAN IN RELATION TO EXTERNAL OBJECTS.

Having considered Man as a *physical* being, and briefly adverted to the adaptation of his constitution to the physical laws of creation; having viewed him as an *organised* being, and traced the relations of his organic structure to his external circumstances; having taken a rapid survey of his *faculties* as an animal, moral, and intellectual being, with their uses and abuses; and having contrasted these faculties with each other, and discerned the supremacy, in cases of conflict, of the moral sentiments and the intellect—let us now proceed to compare his faculties with *external objects*, in order to discover what provision has been made by Providence for their gratification.

AMATIVENESS is a feeling obviously necessary for the continuance of the species, and one which, properly regulated, produces great enjoyment, in harmony with morality and reason—opposite sexes exist to provide for its gratification.

PHILOPROGENITIVENESS is given—and offspring exist.

CONCENTRATIVENESS is conferred—and the other faculties are its objects.

ADHESIVENESS is given—and friends and country exist.

COMBATIVEIVENESS is bestowed—and physical and moral obstacles exist, to meet and subdue which, courage is necessary.

DESTRUCTIVENESS is given—and Man is constituted with carnivorous teeth and an omnivorous stomach, and animals to be killed and eaten exist. Besides, the whole combinations of creation are in a state of decay and renovation. In the animal kingdom almost every species of creature is the prey of some other ; and the faculty of destructiveness places the human mind in harmony with this order of creation. Destruction makes way for renovation ; the act of renovation furnishes occasion for the activity of our other powers ; and activity is pleasure. That destruction is a natural institution is unquestionable. Not only has Nature taught the spider to construct a web for the purpose of ensnaring flies that it may devour them, and constituted beasts of prey with carnivorous teeth and instincts, but she has formed even plants, such as the Drosera, to catch and kill flies, and use them for food. Destructiveness is also a source of resentment and indignation—an important defensive as well as vindictory purpose. It is a check upon undue encroachment, and tends to constrain mankind to pay regard to the rights and feelings of others. When properly regulated, it is an assistant to justice.

CONSTRUCTIVENESS is given—and Man is born naked and houseless, but materials for constructing raiment, habitations, and other fabrics that add to the enjoyment of life, abound, and give it scope.

ACQUISITIVENESS is bestowed—and things of utility exist, capable of being collected, preserved, and applied to the augmentation of our enjoyment.

SECRETIVENESS is given—and the manifestation of our faculties requires to be restrained, until fit occasions and legitimate objects present themselves. By this propensity, concealment of our emotions, ideas, designs, and opinions is rendered not only possible, but also easy and agreeable.

SELF-ESTEEM is given—and a personal existence and personal interests are its objects.

LOVE OF APPROBATION is bestowed—and we are surrounded by our fellow-men, whose good opinion it desires.

CAUTIOUSNESS is adapted to the nature of the external

world. Our bodies are liable to suffer injury from a variety of causes, to avoid which it is necessary for us to be habitually watchful. Accordingly, cautiousness is an ever-watchful sentinel, constantly whispering "Take care." The world affords scope for the legitimate and pleasurable exercise of our faculties without our encountering serious evils, provided that we know enough and are watchful enough; and therefore cautiousness is not overwhelmed with inevitable terrors. It warns us to beware of sudden and unexpected danger; it keeps the other faculties at their posts, by furnishing a stimulus to them to observe and to trace consequences, that safety may be ensured; and when they do their duty, the impulses of cautiousness, instead of being painful, are the reverse: they carry with them a feeling of safety which is agreeable. Hence this faculty appears equally benevolent in its design with the others we have contemplated. The gift of a faculty of cautiousness fits Man for a field of danger. It is adapted to a world like the present, but it would have been superfluous in a scene into which no evil could intrude.

Here, then, we perceive provision made for supporting the activity of the propensities, and for affording them legitimate gratification. Apparently, these powers are conferred on us to support our animal nature, and to place us in harmony with the external objects of creation. Far from being injurious or base in themselves, they possess the dignity of utility, and are sources of high enjoyment when legitimately indulged. We should not seek to extirpate them, or to weaken them too much. We should desire only to see them restrained from excess, and their exercise brought into accordance with the great institutions and designs of the Creator. The existence of these faculties, and of an external world adapted to them, appears to me to indicate that Man is now the same being as when he was created, and that what is called his corruption consists in his liability to abuse his faculties, and not in any inherent viciousness attributable to his nature itself.

The next class of faculties is that embracing the higher Sentiments of Man. These are the following:—

BENEVOLENCE is given—and sentient and intelligent beings are created, whose happiness we may increase, and whose sufferings we are able to alleviate, thus affording the faculty scope and delight. It is an error to imagine that

creatures in misery are the only objects of benevolence, and that it has no function but to experience pity. It is a wide-spreading fountain of generous feeling, desiring not only the removal of pain, but also the maintenance and augmentation of enjoyment ; and the happier it can render its objects, the greater are its satisfaction and delight. Its exercise, like that of all the other faculties, is a sort of pleasure to the individual himself ; and the world seems well adapted for affording it scope. Every man has it in his power to confer benefits on others, by legitimately gratifying their various feelings and intellectual faculties without injuring himself.

VENERATION.—The highest object of this faculty is the Divine Being, and the highest duty to which it can prompt us is obedience to His laws. I have assumed the existence of God as a fact capable of proof. The very essay in which I am now engaged is an attempt at an exposition of some of His attributes, as manifested in this world. If we find wisdom and benevolence in His works, unchangeableness and no shadow of turning in His laws, harmony in each department of creation ; and if we discover that the evils which afflict us are much less the direct objects of His arrangements than the consequences of our ignorant neglect of institutions really calculated to promote our enjoyment —then we shall acknowledge in the Divine Being an object whom we may love with all our souls, and reverence with the deepest emotions of veneration, and on whom hope and conscientiousness may repose with a perfect and unhesitating reliance. The exercise of veneration is attended with great positive enjoyment when the object is in harmony with our other faculties.

HOPE is given—and our understanding is enabled to penetrate into the future. This sentiment is gratified by the absolute reliance which we find reason to place on the stability, wisdom, and goodness of the Divine arrangements : its legitimate exercise, in reference to this life, is to give us a vivifying faith that good is attainable if we use the proper means. Hope is a powerful alleviator of our afflictions. When acting along with the love of life, it disposes to belief in a happy future state of existence ; but it is the office of the intellectual faculties to investigate and decide on the evidence of this state.

IDEALITY is bestowed—and not only is external nature invested with exquisite loveliness, but a capacity for moral and intellectual refinement is given to us, by which we may

rise in the scale of improvement, and, at every step of our progress, reap direct enjoyment from this sentiment. Its constant desire is for "something more exquisite still." In its own immediate impulses it is delightful, and external nature and our other faculties respond to its call for gratification.

WONDER desires something new, and prompts us to admiration. When we contemplate Man endowed with intellect to discover the existence of a Deity, and largely to comprehend His works, we cannot doubt that wonder is provided with objects for its intensest exercise; and when we view him placed in a world where old things are continually passing away, and a system of renovation is incessantly proceeding, we see how vast a provision is made for the gratification of his desire of novelty, and how admirably it is calculated to impel his other faculties to action.

CONSCIENTIOUSNESS exists—and it has a wide field of exercise in regulating the rights and interests of the individual, in relation to other men and to society. The existence of selfish propensities and disinterested emotions demands a power to arbitrate between them, and to regulate both; and such is the sentiment of conscientiousness. To afford it full satisfaction, it is necessary to prove that all the Divine institutions are founded in justice. This is a point which many regard as involved in much obscurity: I shall endeavour, in this essay, to lift the veil in part; for to me, justice appears to flow through every Divine institution that is sufficiently understood.

One difficulty in regard to conscientiousness long appeared inexplicable; it was, how to reconcile with benevolence the institution by which this faculty visits us with remorse *after* offences are actually committed, instead of arresting our hands by an irresistible veto *before* sinning, so as to save us from the perpetration altogether. The problem is solved by the principle that happiness consists in the activity of our faculties, and that the arrangement by which good follows obedience to the natural laws, and evil disobedience, is more conducive to self-regulated activity than would have been a system in which choice, judgment, and self-action were superseded by a natural, irresistible, and ever-present restraining power, interposed at every moment when Man was in danger of erring.

If, for example, we desired to enjoy the gratification of

exploring a new country, replete with beautiful scenery and captivating natural productions ; and if we found in our path precipices that gratified ideality, but which, if we neglected the law of gravitation, might occasion death ; whether would it be more bountiful in Providence to send an invisible attendant with us, who, whenever we were about to approach the brink, should interpose a barrier, and fairly cut short our advance, without requiring us to bestow one thought upon the subject, and without our knowing when to expect it and when not—or to leave all open, but to confer on us, as He has done, faculties to comprehend the law of gravitation, eyes fitted to see the precipice, and cautiousness to make us dread falling over it—and then to leave us to enjoy the scene in perfect safety if we used these powers, but to suffer pain or death if we neglected to exercise them ?

It is obvious that the latter arrangement would give far more scope to our various powers ; and if active faculties are sources of pleasure, as will be shown in the next chapter, then it would contribute more to our enjoyment than the other.

Now, conscientiousness punishing after the fact is analogous, in the moral world, to what this arrangement would be in the physical. If intellect, benevolence, veneration, and conscientiousness do their parts, they will give intimations of disapprobation before the commission of offences, just as cautiousness will give intimations of danger at the sight of the cliff ; but if these be disregarded, and we fall over the moral precipice, remorse will follow as punishment, just as pain is the chastisement for tumbling over the physical brink. The object of both institutions is to permit and encourage the most vigorous and unrestrained exercise of our faculties, in accordance with the physical, moral, and intellectual laws of nature, and to visit us with evil only when we transgress these limits.

FIRMNESS is bestowed—and the other faculties of the mind are its objects. It supports and maintains their activity, and gives determination to our purposes.

IMITATION is bestowed—and everywhere Man is surrounded by beings and objects whose actions and appearances it may benefit him to copy. It is highly useful to the young, in helping them to learn rapidly ; and at all ages it enables us to assimilate our manners and feelings to those of the persons among whom we live.

The next class of faculties is the Intellectual.

The provisions in external nature for the gratification of the *senses* of hearing, seeing, smelling, taste, and feeling are so obvious, that it is unnecessary to enlarge upon them.

INDIVIDUALITY and EVENTUALITY, or the powers of observing things that exist and occurrences, are given—and history and science contain their objects. “All the truths which natural philosophy teaches depend upon *matter of fact*, and that is learned by observation and experiment, and never could be discovered by reasoning at all.” Here, then, is ample scope for the exercise of these powers.

The faculties of FORM, SIZE, WEIGHT, LOCALITY, ORDER, and NUMBER are bestowed—and the sciences of geometry, arithmetic, algebra, geography, navigation, botany, mineralogy, zoology, anatomy, and various others, are the fields of their exercise. The first three sciences are almost entirely the products of these faculties ; the others result chiefly from them, when applied to external objects.

The faculties of COLOURING, TIME, and TUNE are given—and these, aided by constructiveness, form, size, ideality, and other faculties, find scope in painting, sculpture, poetry, music, and the other fine arts.

LANGUAGE is given—and our faculties inspire us with lively emotions and ideas, which it enables us to communicate to others.

COMPARISON and CAUSALITY exist—and these faculties, aided by individuality, form, size, weight, and the others already enumerated, find ample gratification in natural science, and in moral, political, and intellectual philosophy. The general objects and affairs of life, together with our own feelings, conduct, and relations, are also the objects of the knowing and reflecting faculties, and afford them opportunities for exercise.

CHAPTER IV.

THE SOURCES OF HAPPINESS.

HAVING presented a rapid sketch of the constitution of Man, and its relations to external objects, we are now prepared to inquire into the sources of his happiness, and the conditions requisite for maintaining it.

The first thing which attracts attention is that all enjoyment must arise from *activity* of the various systems of which the human constitution is composed. The bones, muscles, nerves, and digestive and respiratory organs, when exercised in conformity with nature, furnish pleasing sensations ; while the external senses and internal faculties supply the whole remaining perceptions, emotions, and thoughts, which constitute life and rational existence. If these were habitually asleep or constitutionally inactive, life, for all purposes of enjoyment, might as well be extinct : existence would be reduced to mere vegetation, without consciousness.

If, then, wisdom and benevolence have been employed in constituting Man, we may expect to find the arrangements of creation calculated to *excite* his various powers, corporeal and mental, to *activity*. And, accordingly, the fact appears to me to be so. The stomach, for example, has been so constituted as to demand regular supplies of food, which can be obtained only by nervous and muscular exertion. The body has been created destitute of covering, yet standing in need of protection from the blasts of heaven ; and rainment can be procured by moderate exercise of the mental and corporeal powers. Every faculty craves for gratification ; but Nature presents us only with the elements of pleasure, which we must appropriate, combine, and apply by *action*, to our own advantage. In these arrangements, the design of supporting the various systems of the body in activity for the enjoyment of the individual is abundantly obvious.

Directing our attention to the Mind, we discover that individuality and the other perceptive faculties desire, as *their* means of enjoyment, to become acquainted with external objects ; while the reflecting faculties long to know the dependencies and relations of all objects and

beings. "There is something," says an eloquent writer, "positively agreeable to all men—to all, at least, whose nature is not most grovelling and base—in gaining knowledge for its own sake. When you see anything for the first time, you at once derive some gratification from the sight being new; your attention is awakened, and you desire to know more about it. If it is a piece of workmanship, as an instrument or machine of any kind, you wish to know how it is made, how it works, and of what use it is. If it is an animal, you desire to know where it comes from, how it lives, what are its dispositions, and, generally, its nature and habits.

"This desire is felt, too, without at all considering that the machine or the animal may ever be of the least use to yourself practically; for, in all probability, you may never see them again. But you feel a curiosity to learn all about them, *because they are new and unknown to you*. You accordingly make inquiries; *you feel a gratification* in getting answers to your questions, that is, *in receiving information*, and in knowing more—in being better informed than you were before. If you ever happen again to see the same instrument or animal, you find it agreeable to recollect having seen it before, and to think that you know something about it. If you see another instrument or animal, in some respects like, but differing in other particulars, you find it pleasing to *compare them together*, and to note in what they agree and in what they differ. Now, all this kind of gratification is of a pure and disinterested nature, and has no reference to any of the common purposes of life; yet it is a pleasure—an enjoyment. You are nothing the richer for it; you do not gratify your palate or any other bodily appetite; and yet it is so pleasing that you would give something out of your pocket to obtain it, and would forego some bodily enjoyment for its sake. The pleasure derived from science is exactly of the like nature, or rather it is the very same."*

This is a correct and forcible exposition of the pleasures attending the active exercise of our intellectual faculties. In the Introduction I have given several illustrations of the manner in which the external world is adapted to the mental faculties of Man, and of the extent to which it is calculated to maintain them in activity.

* "Objects, Advantages, and Pleasures of Science," p. 1.

Supposing the human faculties to have received their present constitution, two arrangements for their gratification may be fancied : 1st, Infusing into the intellectual powers, at birth, *intuitive knowledge* of every object which they are fitted ever to comprehend, and directing every propensity and sentiment, by an infallible instinct, to its best mode and degree of gratification ; or, 2^{dly}, Constituting the intellectual faculties as mere *capacities* for gaining knowledge by exercise and application, and surrounding them with objects bearing such relations towards them, that when these objects and relations are observed, appreciated, and properly applied, high gratification will be obtained—but when they are unobserved and neglected, the result will be uneasiness and pain ; giving at the same time to each propensity and sentiment a wide field of action, comprehending both use and abuse—and leaving the intellect to direct each to its proper objects, and to regulate its degrees of indulgence. And the question occurs, Which of these modes would be the more conducive to enjoyment ?

The general opinion will be in favour of the first ; but the second appears to me to be preferable. If the first meal we had eaten had prevented the recurrence of hunger, it is obvious that all the pleasures of satisfying a healthy appetite would have been for ever at an end, and that this apparent bounty would have greatly abridged our enjoyment. In like manner, if (our faculties being constituted as at present) unerring desires had sprung from the propensities and sentiments, and intuitive knowledge had been given to the understanding, so that, when an hour old, we should have been, morally, as virtuous, and, intellectually, as wise as we could ever become, a great provision for the sustained activity of our faculties would have been wanting. When wealth is acquired, the miser is still unsatisfied ; he grasps after *more* with increasing avidity. He is supposed to be irrational in doing so ; but he obeys the law of his nature. His chief pleasure arises from the *active state* of his acquisitiveness, and only the pursuit and obtaining of *new treasures* can maintain that condition.

The same law is exemplified in the case of love of approbation. The enjoyment which it affords depends on its *active state* ; hence, a necessity for *new incense*, and for *mounting higher* in the scale of ambition, is constantly felt by its victims. Napoleon in exile said, “Let us live upon the past ;” but he found this impossible : his predominant

desires originated in self-esteem and love of approbation, and the past did not stimulate these faculties or maintain them in constant activity. In like manner, no musician, artist, poet, or philosopher, however extensive his attainments, would reckon himself happy if, while his faculties were still vigorous, he were told, "Now you must stop, and live upon the past." And the reason is still the same: the pursuit of new acquirements and the discovery of new fields of investigation excite and maintain the faculties in activity; and activity is enjoyment.

If these views be correct, the consequences of imbuing the mind, as it is at present constituted, with intuitive knowledge and instinctive direction would not be unquestionably beneficial. The limits of our experience and acquirements would be speedily reached; our first step would be our last. Everything would become old and familiar. Hope would have no object of expectation, cautiousness no object of fear, wonder no gratification in novelty: monotony, insipidity, and mental satiety would apparently be the lot of Man.

But creation, in its present form, is more wisely and benevolently adapted to our constitution. By the actual arrangement, numerous faculties are bestowed, and their objects are presented: these objects are endowed with qualities fitted, when properly used, to benefit and delight us, and when misapplied, to injure and distress us; but we are left to find out their qualities by the exercise of our own powers. Provision is thus made for ceaseless activity of the mental faculties; and this activity constitutes delight. Wheat is produced by the earth, and is adapted to the nutrition of the body; but it may be rendered more grateful to the taste, more digestible to the stomach, and more stimulating to the nervous and muscular systems, by being stripped of its external skin, ground into flour, and baked. Now, when the Creator endowed wheat with its properties, and the human body with its qualities and functions, He pre-arranged all these relations.

In withholding intuitive knowledge of them, while bestowing faculties fitted to find them out; in rendering the exercise of these faculties agreeable, while leaving Man, in this condition, to act for himself—He appears to me to have conferred on him the highest boon. The earth produces also hemlock and foxglove, which, if taken in certain moderate quantities, exercise a healing effect, but if taken in

excess occasion death. Now, Man's observing faculties, when acting under the guidance of cautiousness and reflection, are fitted to learn their qualities ; and he is left to discover these, or to suffer the consequences of neglect. Dr. Symonds, Physician to the Bristol Infirmary, writes as follows : "I am not fond of arguments from final causes ; but can it be doubted that the various medicines we possess were, as such, a part of the plan of the universe, designed to have a relation to morbid states of living organisms, as much as esculent matters to healthy conditions?"* If so, it seems obvious that Man was left to discover them, for his own benefit, as a stimulus to his mental activity.

Water when heated becomes steam ; steam expands with prodigious power ; and this power, confined by metal and directed by intellect, is the propeller of the steam-engine, the most efficient† yet most humble servant of Man. All this was pre-arranged by the Deity, and Man's faculties were adapted to it ; but he was left to observe and discover the qualities and relations of water for himself. The moment, however, we perceive that the Creator has made the exercise of the faculties agreeable, and has arranged the qualities and relations of matter so beneficially that when known and applied they carry a double reward to the discoverer—the pleasure of mental exercise, and positive advantage from the results obtained—we must acknowledge that the duty of discovery has been benevolently imposed.

The knowing faculties observe merely the qualities of bodies, their phenomena, and their simpler relations. The reflecting faculties observe relations also, but of a higher order. The former, for example, discover that the soil is clay or gravel ; that it is tough or friable ; that it is dry or wet ; that excess of water impedes vegetation ; that in one season the crop is large, and in another deficient. The reflecting faculties take cognisance of the *causes* of these phenomena ; and, aided by the knowing powers, they discover the *means* by which wet soil may be rendered dry, by which clay may be pulverised, light soil invigorated, and all of them made more productive ; and also the relationship of particular soils to particular kinds of grain.

* "British and Foreign Medical Review," Oct., 1846; Vol. XXII., p. 561.

† The practical applications of electricity were unknown when this was written.—ED.

Nations that exert their knowing faculties in observing the qualities of the soil, and their reflecting faculties in discovering its capabilities, and its relations to water, lime, manures, and the various species of grain, and who put forth their muscular and nervous energies in accordance with the dictates of these powers, receive a rich reward in an abundant supply of food, and a climate improved in salubrity, besides much positive enjoyment attending the exercise of the powers themselves.

On the other hand, those communities that neglect to use their mental faculties and their muscular and nervous powers are visited by ague, fever, rheumatism, and a variety of painful affections arising from damp air ; they are stinted in food, and in wet seasons are brought to the very brink of starvation by serious failures of their crops. This suffering is a benevolent admonition from the Creator that they are neglecting a great duty, and omitting to enjoy a great pleasure ; and it will cease as soon as, by obeying the Divine laws, they shall have fairly redeemed the blessings lost by their negligence.

The winds and waves appear, at first sight, to present insurmountable obstacles to our leaving the island or the continent on which we happen to be born, and to our holding intercourse with distant climes : but, by observing the relations of water to floating bodies, Man was enabled to construct a ship ; by observing the influence of the wind on them, he discovered the use of sails. He has also found out the expansive quality of steam, and has traced its relations, until he has produced a machine that enables him to set the roaring tempest at defiance, and to reach the appointed haven, although its loudest and fiercest blasts oppose. All these capabilities were conferred on nature and on Man long before they were practically applied ; but now that we have advanced so far in the career of discovery and improvement, we perceive the scheme of creation to be admirably adapted to support the mental faculties in habitual activity, and to reward us for the exercise of them.

In surveying external nature with this principle in view, we perceive in many qualities of physical objects indications of benevolent design, which otherwise would have been regarded as defects. The Creator obviously intended that Man should discover and use coal-gas in illuminating dwelling-houses ; and yet it emits an abominable odour.

The bad smell, viewed apart from its consequences, would appear to be an unfortunate quality ; but when we recollect that gas is invisible, extremely subtle, and liable to escape—and that, when mixed with a certain proportion of atmospheric air, it is prone to explode—the nauseous and penetrating smell appears like a voice attached to it, proclaiming its escape, and warning us, in louder and louder tones, to attend to our safety by confining it ; and then it presents the aspect of wise and benevolent design. Coal-gas stood in this relation to the olfactory nerves from the creation downwards, although it was unknown to men for ages. We cannot doubt that the discovery and application of it was contemplated by the Creator from the first.

A few years ago, when I heard Paganini play on the violin, the subject of wonder with me was the exquisite fineness of his notes. The sounds fell on the ear as if their cause had been purely ethereal. No indication of their material origin could be traced. An angel might be imagined to send forth such strains to mortal ears. The extraordinary development of Paganini's organs of tune and time, with the extreme sensibility of his nervous system, strongly indicated in his countenance and figure, seems to have been the causes of his attaining this exquisite power. In reflecting on his performance, I was forcibly struck with the idea that until a being constituted like Paganini appeared, we had no means of discovering that the substances composing a violin and bow were capable of emitting such pure and dulcet sounds ; and that a similar reflection may probably be applicable to the entire sublunary creation. This world may be full of divine qualities and delicious harmonies, if we had only superior men to evoke them. And if the case be so, how truly admirable is that constitution of nature which furnishes us with every possible inducement not only to study itself, but to improve our own qualities, and which presents us with richer treasures the further we advance in the discharge of our most pleasing and profitable duties !

It is objected to this argument that it involves an inconsistency. Ignorance of the natural laws, it is said, is here represented as necessary to happiness, in order that the faculties may obtain exercise in discovering and obeying them ; nevertheless, happiness is held to be impossible till these laws shall have been discovered and obeyed : here, then, it is argued, ignorance is represented as at once

essential to, and incompatible with, enjoyment. But this is not an accurate statement of the doctrine. I do not say that, in any individual man, ignorance of the natural laws is essential to enjoyment ; I merely maintain that, with his present constitution, it was more beneficial for him to be left to learn these laws from his parents or from his own experience, than at birth to have received intuitive knowledge of all the objects of creation.

A similar objection might be stated to the constitution of the bee. Honey is necessary to its enjoyment ; yet it has been left to gather honey for itself. The fallacy originates from losing sight of the natural constitution both of the bee and of Man. The bee has been furnished with instinctive tendencies to roam about the fields and flowery meadows, and to exert its energies in labour ; and it is obviously beneficial to it to be provided with opportunities of doing so. The old bees provide the young one with food until it is able to exert its own powers.

And so it is with Man. Gathering knowledge is to the human mind what gathering honey is to the bee. The parent provides instruction until the faculties become capable of acting for themselves. Communicating intuitive knowledge of the natural laws to Man, *while his present constitution continues*, would be the parallel of naturally gorging the bee with honey during the whole summer, when its energies are at their height. When the bee has completed its store, winter benumbs its powers, and these resume their vigour only when its stock is exhausted, and when spring returns to afford it fresh means of exercise. No torpor resembling that of winter seals up the faculties of Man ; but his ceaseless activity is amply provided for by other arrangements :—

1st, Every individual of the race is born in utter ignorance, and, thus starting from zero in the scale of knowledge, he must learn the laws of nature for himself, either from his predecessors or from experience ; *2dly*, These laws, compared with the mental capacity of any individual, are of boundless extent, so that everyone may, to the end of his life, be learning something new ; *3dly*, By the actual constitution of Man, he must make use of his acquirements habitually ; otherwise, he will lose them.

These circumstances remove the apparent inconsistency. If Man had possessed intuitive knowledge of all nature, he could have had no scope for exercising his faculties in

acquiring knowledge, in *preserving* it, or in *communicating* it. The infant would have been as wise as the most revered sage, and progress would have been utterly excluded.

Some who object to these views imagine that when the human race shall have acquired knowledge of all the natural laws (if such a result be possible), they *will be in the same condition as if they had been created with intuitive knowledge.* But this by no means follows. Although the *race* should acquire the knowledge supposed, it is not an inevitable consequence that *each individual* will have it all: which, however, would follow from intuition. The entire soil of Britain belongs to the landed proprietors as a class; but each does not possess it all, and hence everyone has opportunities of adding to his territories—with this disadvantage, however, in comparison with knowledge, that the acquisitions of one necessarily diminish the possessions of another.

Further, although the race should have learned all the natural laws, its children would not intuitively inherit its knowledge, and thus the activity of everyone, as he appears on the stage, would be provided for; whereas, on the theory of intuition, every child would be as wise as his grandfather, and parental protection, filial piety, and all the delights that spring from difference in knowledge between youth and age would be excluded.

Lastly, by intuition, all knowledge would be habitually present to the mind without effort or consideration; whereas, in the actual state of Man, the *using* of acquirements is essential to the preservation as well as to the enjoyment of them. On the whole, therefore, it appears that (Man's nature being what it is) the arrangement by which he is endowed with powers to acquire knowledge, but is left to find it out for himself, is both wise and benevolent.

It has been asked, “But is there no pleasure in science except that of discovery? Is there none in using the knowledge we have attained? Is there no pleasure in playing at chess after we know the moves?” I answer, that if we knew beforehand all the moves that our antagonist intended to make, and all our own, which must be the case if we knew *everything* by intuition, we could have no pleasure. The pleasure really consists in discovering the intentions of our adversary, and in calculating the effects of our own play; a certain degree of ignorance of both of which is indispensable to gratification. In like manner, it is agreeable first to discover the natural laws, and then to study

the *moves* that we ought to make in consequence of knowing them.

In the *second* place—To reap enjoyment in the *greatest quantity*, and to maintain it *most permanently*, the faculties must be gratified *harmoniously*. For example, in pursuing wealth or fame as the leading object of existence, full gratification is not afforded to benevolence, veneration, and conscientiousness, and consequently complete satisfaction cannot be enjoyed: whereas, by seeking knowledge, and by dedicating life to the discharge of our duties to ourselves, to our relatives, to our country, to mankind, and to God, in our several vocations, all the faculties are gratified, and wealth, fame, health, and other advantages, naturally follow; so that the whole mind rejoices, and its delights are permanent.

3dly, In order that human happiness may rest on a secure basis, the laws of external creation must themselves accord with the dictates of the whole faculties of Man, acting in harmonious combination; and his intellect must be fitted to discover the nature and relations of both, and to direct his conduct in harmony with them.

Much has been written concerning the extent of human ignorance: but we should discriminate between absolute incapacity to know and mere want of knowledge, arising from our not having used this capacity to its full extent. In regard to the first—our capacity to know—it appears probable that in this world we shall never know the essence, beginning, or end of things; because these are points which we have no faculties calculated to discover; but the same Creator who made the external world constituted our faculties; and if we have sufficient data for inferring it to be His intention that we should *enjoy* life—and if it be true that we can attain happiness only by becoming conversant with those natural laws which are pre-arranged to contribute, when observed, to our enjoyment, but from which, when violated, we suffer—then it may be safely concluded that our mental capacities are wisely adapted to the attainment of these objects, whenever we shall do our own duty in bringing them to their highest state of perfection, and in applying them in the best manner.

Sir Isaac Newton observed that all bodies which refract

the rays of light are combustible, except one, the diamond, which he found to have the optical quality, but which he was not able, by any means he possessed, to consume by burning. He did not, however, conclude from this that the diamond was an exception to the uniformity of nature. He inferred that, as the same Creator had made the diamond and the refracting bodies which he was able to burn, and as He proceeded by uniform laws, the diamond also would probably be found to be combustible, and that the reason of its resisting Man's power was his ignorance of the means of raising a temperature sufficiently high to produce its conflagration. A century afterwards, chemists made the diamond blaze with as much vivacity as Sir Isaac Newton had done a wax-candle.

Let us proceed, then, on an analogous principle. If the intention of our Creator was that we should lead happy lives, then He knew what was necessary to enable us to do so; and He will not be found to have failed to confer on us powers fitted to accomplish His design, provided we do our duty in developing and applying them. The great motive to exertion is the conviction that increased knowledge will furnish us with increased means of happiness and well-doing, and with new proofs of benevolence and wisdom in the great Architect and Governor of the universe.

In pleading thus earnestly for the wise and benevolent constitution of the human mind, and for the admirable adaptation of external nature to its qualities, I may cause uneasiness to some readers who have been educated in the belief that human nature is inherently corrupt, and that physical creation is essentially disordered; but in doing so, I yield to the imperative dictates of what appears to me to be truth. If the views now expounded shall be shown to be erroneous, I shall be most anxious to abandon them; but if they shall prove to be correct interpretations of nature, they will of necessity stand forth in all the might and majesty of Truth. And if true, they will carry vast consequences in their train. I am not rearing a system from ambitious motives, neither is it my object to attack the opinions of other men. My object is simply to lift up the veil of ignorance, and, in all humility, to exhibit the Creator's works in their real colours, in so far as I conceive myself to have been enabled to recognise them.

CHAPTER V.

THE NATURAL LAWS AND HUMAN LIFE.

IF a system of living and occupation were to be devised for human beings, founded on the exposition of their nature now given, something like the following might be proposed.

1st, So many hours a day should be dedicated by everyone in health to the exercise of his nervous and muscular systems, in labour calculated to give scope to their functions. The reward of fulfilling this requirement of Nature is health and a joyous animal existence ; the appointed consequences of neglect are disease, low spirits, and premature death.

2dly, So many hours a day should be spent in the sedulous employment of the knowing and reflecting faculties ; in studying the qualities of external objects, and their relations ; also the nature of animated beings, and their relations ; with the view, not of accumulating mere abstract and barren knowledge, but of enjoying the positive pleasure of mental activity, and of turning every discovery to account, as a means of increasing happiness or of alleviating misery. The leading object should always be to find out the relationship of every object to our own nature, organic, animal, moral, and intellectual, and to keep that relationship habitually in mind, as Divinely appointed with a view to our happiness. We should thereby render our acquirements gratifying to our various faculties. The reward of this conduct would be an increase of pleasure in the act of acquiring knowledge, and a great accession of power in reaping ulterior advantages from it.

3dly, So many hours a day should be devoted to the cultivation and gratification of our moral and religious sentiments—that is to say, in exercising these in harmony with intellect, and especially in acquiring the habit of admiring, loving, and yielding obedience to the Creator and His institutions. This last object is of vast importance. Intellect is barren of beneficent fruit, however rich it may be in knowledge, until it be fired and prompted to act by moral and religious sentiment. In my view, knowledge by

itself is worthless and impotent, in comparison with what it becomes when vivified by lofty emotions. It is not enough that the intellect be informed ; the moral and religious faculties must co-operate in applying the truths and in yielding obedience to the precepts which the intellect recognises to be true.

As creation is one great system, of which God is the Author and Preserver, we may fairly presume that there is harmony among all its parts, and between it and its Creator. The human mind is a portion of creation, and its constitution must be included in this harmonious scheme. One grand object of the moral and intellectual faculties of Man, therefore, ought to be the study of the will of God, as manifested in His works.

Before science can rise to its highest dignity, and can shed on the human race its richest benefits, it must become religious : that is to say, its facts, principles, and consequences must be viewed as proceeding directly from the Divine Being—as a revelation of His will to the human race for the guidance of their conduct. Science, while separated from the moral feelings, is felt by the people at large to be cold and barren. It may be calculated to interest men of high intellectual endowments ; but, as in the multitude the moral and religious sentiments greatly predominate in energy over the intellectual powers, it fails to interest them. On the other hand, before religion can exercise its full influence on practical conduct, it must become philosophical. Its doctrines must harmonise with the system of creation, and the order of Providence must be exhibited as enforcing its dictates.

While reason and religion are at variance, both are obstructed in producing their full beneficial effects. God has placed harmony between them, and it is only human imperfection and ignorance that have introduced discord. One way of cultivating the sentiments would be for men to meet and act together, on the principles which I am now endeavouring to unfold, and to exercise, in mutual instruction, and in united adoration of the great and glorious Creator, the intellectual faculties, and those of benevolence, veneration, hope, ideality, wonder, and conscientiousness.

The reward of acting in this manner would be a large increase of knowledge, and the communication of direct and intense pleasure to each other ; for I refer to everyone who has ever had the good fortune to pass a day or an hour with

a really benevolent, pious, honest, and intellectual man, whose soul swelled with reverence for his Creator, whose intellect was replenished with knowledge of His works, and whose whole mind was instinct with sympathy for human happiness—whether such a day did not afford him the most pure, elevated, and lasting gratification he ever enjoyed? Such an exercise, besides, would invigorate the whole moral and intellectual powers, and fit them more and more to discover and obey the Divine institutions.

A knowledge of Mental and Moral Science is highly conducive to this enjoyment of our moral and intellectual nature. No faculty is bad, but, on the contrary, each has a legitimate sphere of action, and, when properly gratified, is a fountain equally of profit and of pleasure; in short, Man possesses no feeling, of the right exercise of which an enlightened and ingenuous mind needs be ashamed. A party of thoroughly practical philosophers, therefore, meet in the perfect knowledge of each other's qualities; they respect these as the gifts of the Creator; and their great object is to derive the utmost pleasure from their legitimate use, and to avoid abuse of them. The distinctions of country and education are broken down by unity of principle; the chilling restraints of cautiousness, self-esteem, secretiveness, and love of approbation, which stand as barriers of eternal ice between human beings in the ordinary intercourse of society, are gently removed; the directing sway is committed to benevolence, veneration, conscientiousness, and intellect; and then the higher principles of the mind operate with a delightful vivacity, unknown to persons deficient in confidence in the better qualities of human nature.

Intellect, also, should be regularly exercised in arts, science, philosophy, practical business, observation, and reflection.

I have said nothing of dedicating hours to the direct gratification of the animal powers; not that they should not be exercised, but that scope for their activity is included in the employments already mentioned. In muscular exercises, combativeness, destructiveness, constructiveness, acquisitiveness, self-esteem, and love of approbation may all be gratified. In contending with and surmounting physical and moral difficulties, combativeness and destructiveness obtain vent; in working at a mechanical employment requiring the exertion of strength, these two faculties,

and also constructiveness and acquisitiveness, will be exercised ; in emulation who shall accomplish most good, self-esteem and love of approbation will obtain scope. In the exercise of the moral faculties, several of these, and others of the animal propensities, are employed ; amativeness, philoprogenitiveness, and adhesiveness, for example, acting under the guidance of benevolence, veneration, conscientiousness, ideality, and intellect, receive direct enjoyment in the domestic circle. From their being properly directed, also, and from the superior delicacy and refinement imparted to them by the higher powers, they do not infringe the moral law, and leave no sting of repentance in the mind.

Finally, certain portions of time should be dedicated to food and to sleep.

All systems hitherto practised have been deficient in providing for one or more of these branches of enjoyment. In a community at Orbiston, in Lanarkshire, formed in the year 1825 on Mr. Owen's principles, music, dancing, and theatrical entertainments were provided ; but the people soon became tired of these. Sufficient moral and intellectual instruction was not supplied. The novelty excited them, but there was nothing substantial behind. In ordinary society, very little either of instruction or of amusement is provided. The neglect of innocent amusement is a great error.

If there be truth in these views, they may throw some light on two important questions that have hitherto embarrassed philosophers in regard to the progress of human improvement. The first is, Why should Man have existed so long, and have made so small an advance on the road to happiness ? It is obvious that the very scheme of creation which I have described implies that Man is a progressive being ; and progression necessarily supposes lower and higher conditions of attainment and enjoyment. While men are ignorant, there is great individual suffering. This distresses sensitive minds, and seems inexplicable ; they cannot conceive why improvement should so slowly advance.

I confess myself incapable of affording any philosophical explanation why Man should have been so constituted : neither can I or any man give a reason why the whole earth was not made temperate and productive, instead of being partially covered with barren sand and partially with eternal snow. When the inhabitants of Britain wore the skins of animals, and lived in huts and caves,

we may presume that in rigorous winters many of them suffered severe privations, and that some would perish from cold. If there had been among the sufferers a gifted philosopher, who observed the talents that were inherent in the people, although then latent, and who, in consequence, foresaw the splendid palaces and warm fabrics which their descendants would one day produce, he might well have been led to deplore the slow progress of improvement, and have grieved at the prevalence of so much intermediate misery. Yet the explanation that Man is a progressive being is all that philosophy can offer ; and if this satisfy us as to the past, it should be equally encouraging in regard to the present and the future.

The difficulty is eloquently adverted to by Dr. Chalmers in his Bridgewater Treatise : " We might not know the reason," says he, " why, in the moral world, so many ages of darkness and depravity should have been permitted to pass by, any more than we know the reason why, in the natural world, the trees of a forest, instead of starting all at once into the efflorescence and stateliness of their manhood, have to make their slow and laborious advancement to maturity, cradled in storms, and alternately drooping or expanding with the vicissitudes of the seasons. But though unable to scan all the cycles either of the moral or the natural economy, yet we may recognise such influences at work as, when multiplied and developed to the uttermost, are abundantly capable of regenerating the world. One of the likeliest of these influences is the power of education, to the perfecting of which so many minds are earnestly directed at this moment, and for the general acceptance of which in society we have a guarantee in the strongest affections and fondest wishes of the fathers and mothers of families." *

Although, therefore, we cannot explain why Man was constituted a progressive being, and why such a being advances slowly, there is at least, as I have endeavoured to show, an adaptation of his faculties to his condition. If I am right in the fundamental proposition, that harmonious activity of the faculties is synonymous with enjoyment of existence, it follows that it would have been less wise and less benevolent towards Man, constituted as he is, to have given him intuitive perfect knowledge, thereby leaving his mental powers with diminished motives to activity, than to

* Vol. I., p. 186.

have bestowed on him faculties endowed with high susceptibility of action, and to have surrounded him with scenes, objects, circumstances, and relations calculated to maintain them in activity ; although this latter arrangement necessarily subjects him to suffering while ignorant, and renders his first ascent in the scale of improvement difficult and slow.

Not only is Man really benefited by the arrangement which leaves him to discover the natural laws for himself, although, during the period of his ignorance, he suffers much evil from want of acquaintance with them ; but the progress which he has already made towards knowledge and happiness must, from the very extent of his experience, *be actually greater* than can at present be perceived. Its extent will become more obvious, and his experience itself more valuable, after he has obtained a view of the true theory of his constitution. He will find that past miseries have at least exhausted numerous errors, and he will know how to avoid thousands of paths that lead to pain : in short, he will then discover that errors in conduct, like errors in philosophy, give additional importance and practicalness to truth, by the demonstration which they afford of the evils attending departures from its dictates. The grand sources of human suffering at present are bodily disease and mental anxiety ; and in the following chapters these will be traced to infringement, through ignorance or otherwise, of physical, organic, moral, or intellectual laws, which, when understood, appear in themselves calculated to promote the happiness of the race.

It may be supposed that, according to the view presented in Chapter IV., enjoyment will decrease as knowledge accumulates ; but ample provision is made against this event by withholding intuition from each generation as it appears on the stage. Each must acquire knowledge for itself ; and, provided ideas are suited to the faculties, the pleasure of acquiring them from instructors is second only to that of discovering them ourselves. It is probable, moreover, that many ages will elapse before *all* the facts and relations of nature shall have been explored, and the possibility of discovery exhausted. Indeed, if the universe be infinite, knowledge can *never* be complete.

The second question is, Has Man really advanced in happiness in proportion to his increase in knowledge ? We are apt to entertain erroneous notions of the pleasures enjoyed

in past ages. Fabulists have represented ignorant men as peaceful, innocent, and gay ; but if we look narrowly into the conditions of savage and barbarian life in the present day, and recollect that these were the states of all nations before they acquired scientific knowledge, we shall not much or long regret the pretended diminution of enjoyment by civilisation.* The superiority of the latter condition becomes certain when we discover that, until the intellect is extensively informed, and the moral sentiments are duly exercised, the animal propensities bear the predominant sway ; and that wherever these are supreme, misery is an inevitable concomitant.

It ought also to be kept constantly in remembrance that Man is a *social being*, and that the precept “Love thy neighbour as thyself” is imprinted in his constitution. That is to say, so much of the happiness of each individual depends on the habits, practices, and opinions of the society in which he lives, that he cannot reap the full benefits of his own advancement until similar principles have been embraced and realised in practice by his fellow-men. This renders it his interest, as it is his duty, to communicate his knowledge to them, and to carry them forward in the career of improvement.

At this moment, there are thousands of persons who feel their enjoyments, physical, moral, and intellectual, impaired and abridged by the mass of ignorance and prejudice which everywhere surrounds them. They are men living before their age, and whom the world neither understands nor appreciates. Let them not, however, repine or despair ; but let them dedicate their best efforts to communicating the truths which have presented to themselves the best prospects of happiness, and they will not be disappointed.

The law of our constitution which has established the superiority of the moral sentiments renders it impossible for enlightened men to attain the full enjoyment of their own rational nature until they have rendered their fellow-men also virtuous and happy. In the truth and power of this principle, the ignorant and the wretched have a guarantee from Nature for the efforts of their more fortunate brethren being devoted to their elevation. If all ranks of the people were taught the philosophy which I am now

* See on this subject the excellent treatise on *The New Zealanders*, p. 360, in the “ Library of Entertaining Knowledge.”

advocating, and if, in so far as it is true, it were acted on by legislators, and enforced by religious instructors as the will of the Creator made known to Man through His natural institutions, the progress of general improvement would be greatly accelerated.

If the views now advocated shall ever prevail, it will be seen that the experience of past ages affords no sufficient reason for limiting our estimate of Man's capabilities of civilisation. At present he is obviously but little advanced in his career. Although knowledge of external nature, and of himself, is indispensable to his progress towards his true station as a rational being, yet little more than four centuries have elapsed since the arts of printing and engraving were invented : without which, knowledge could not be disseminated through the mass of the people. And even now the *means* of calling Man's rational nature into activity, although discovered, are but very imperfectly applied. It is only five or six centuries since the mariner's compass became known in Europe : without which even philosophers could not ascertain the most common facts regarding the size, form, and productions of the earth. It is only four hundred years since one-half of the habitable globe, America, became known to the other half ; and considerable portions of it are still unknown to the best-informed geographers. It is little more than two centuries and a half since the circulation of the blood was discovered, previously to which it was impossible for even physicians to form any correct idea of the uses of many of Man's corporeal organs, and of their relations to external nature.

Haller, who flourished in the middle of the eighteenth century, may be regarded as the founder of Human Physiology as a science of observation. It was only towards the conclusion of the same century that the functions of the brain and nervous system were discovered : before which, Man possessed no adequate means of becoming acquainted with his mental constitution and its adaptation to external circumstances and beings. Not till the year 1774 was the study of Chemistry, or of the constituent elements of the globe, put into a philosophical condition by Dr. Priestley's discovery of oxygen ; nor did hydrogen become known till 1766. Before that time, men were comparatively ignorant of the qualities and relations of the most important material agents with which they were surrounded. Electricity became a science only in the last century ; galvanism was discovered

in 1794, and gas-light about 1798 ; while steam-boats, steam-looms, steam-carriages, the safety-lamp, and the electric telegraph are inventions still more recent.

It is only in the present century that the study of Geology has been seriously begun : without which we could not know the past changes in the physical structure of the globe—a matter of much importance in judging of our present position in the world's progress. This science also is still far from maturity : an inconceivable extent of territory remains to be explored, from the examination of which many interesting and instructive conclusions will probably be drawn. In Astronomy, too, the discoveries of its modern cultivators promise to throw additional light on the early history of the globe.

The Mechanical Sciences are at this moment in full play, putting forth vigorous shoots, and giving the strongest indications of youth, and none of decline.

The sciences of Morals and of Government are, in many respects, still in a crude condition.

In consequence, then, of his profound ignorance, Man, in all ages, has generally been directed in his pursuits by the mere impulse of his strongest propensities—formerly to war and conquest, and now to the accumulation of wealth—without having framed his habits and institutions in conformity with correct views of his own nature, and of its real interests and wants. During past ages nature has been constantly operating on Man ; but in consequence of his ignorance of its laws, he has not generally accommodated his conduct to its influence, and hence has suffered countless evils.

This condition of things continues in a great measure to exist. Up to the present day, the mass of the people in every country have remained essentially ignorant, the tools of interested leaders or the creatures of their own blind impulses, unfavourably situated for the development of their rational nature ; and they, constituting the great majority, necessarily influence the condition of the rest. But at last the arts and sciences seem to be tending towards the abridging of human labour, so as to give leisure to the mass of the people ; while the elements of useful knowledge are so rapidly increasing, the capacity of the operatives for instruction is so generally recognised, and the means of communicating it are so powerful and abundant, that a new era may fairly be considered to have begun.

CHAPTER VI.

INFRINGEMENT OF THE PHYSICAL AND THE ORGANIC LAWS.

I PROCEED now to the consideration of some of the evils that have afflicted the human race, and to inquire whether they have proceeded from neglect of laws, benevolent and wise in themselves, and calculated, when observed, to promote the happiness of Man, or from a defective or vicious constitution of nature. The following extract from the Journal of John Locke contains a forcible statement of the principle which I intend to illustrate : "Though justice be also a perfection which we must necessarily ascribe to the Supreme Being, yet we cannot suppose the exercise of it should extend further than His goodness has need of it for the preservation of His creatures in the order and beauty of the state that He has placed each of them in ; for since our actions cannot reach unto Him, or bring Him any profit or damage, the punishments He inflicts on any of His creatures, *i.e.*, the misery or destruction He brings upon them, can be nothing else but to preserve the greater or more considerable part ; and so, being only for preservation, His justice is nothing but a branch of His goodness, which is fain by severity to restrain the irregular and destructive parts from doing harm." *

SECT. I.—EVILS ARISING FROM DISREGARD OF THE PHYSICAL LAWS.

The proper way of viewing the Creator's institutions is to look first at their uses, and the advantages that flow from using them aright ; and secondly, at their abuses, and the evils that proceed from this source.

In Chapter II., some of the benefits conferred on Man by the law of gravitation were enumerated ; and I may here advert to some of the evils originating from the disregard of that law in human conduct. For example, men are liable to fall from horses, carriages, stairs, precipices, roofs, chimneys, ladders, and masts, and also to slip in the street—by

* Lord King's "Life of Locke," Vol. I., p. 229 ; Lond., 1830.

which accidents life is sometimes suddenly cut short, or is rendered miserable from lameness and pain ; and the question arises, Is human nature provided with any means of protection against these evils commensurate with their frequency and extent ?

The lower animals are subject to this law as well as Man ; and the Creator has bestowed on them external senses, nerves, muscles, bones, an instinctive sense of equilibrium, the sense of danger, or cautiousness, and other faculties, to place them in accordance with it. These appear to afford sufficient protection to animals placed in ordinary circumstances ; for we very rarely discover any of them, in their natural condition, killed or mutilated by accidents referable to gravitation. Where their mode of life exposes them to extraordinary danger from this law, they are provided with additional securities.

The monkey, which climbs trees, enjoys great muscular energy in its legs, hands, and tail, far surpassing, in proportion to its gravitating tendency, that which is bestowed on the legs and arms of Man ; so that by this means it springs from branch to branch, and supports itself in almost complete security. The goat, which browses on the brinks of precipices, has received hoofs and legs that give precision and stability to its steps. Birds, which are destined to sleep on branches of trees, are provided with a muscle passing over the joints of each leg and stretching down to the foot, which, being pressed by the weight, produces a contraction of their claws, so as to make them cling the faster the greater the liability to fall. The fly, which walks and sleeps on perpendicular walls and the ceilings of rooms, has a hollow in its foot, from which it expels the air, and the pressure of the atmosphere on the outside of the foot holds it fast to the objects on which the inside is placed. The walrus, or sea-horse, which is destined to climb the sides of ice-hills, is provided with a similar apparatus. The camel, whose native region is the desert of the torrid zone, has broad spreading hoofs to support it on the sandy soil. Fishes are furnished with air-bladders, by dilating and contracting which they can accommodate themselves with precision to the law of gravitation.

In these instances, the lower animals appear to be placed, by their natural endowments, admirably in harmony with gravitation, and guaranteed against its injurious effects. Is Man, then, less an object of love with the Creator ?

Is he alone left exposed to the evils that spring inevitably from neglecting its operation? His means of protection are different, but when understood and applied they will probably be found not less complete. Man also has received bones, muscles, an instinct of equilibrium, and the faculty of cautiousness, but less, in proportion to his figure, size, and weight, than those bestowed on the lower animals. The difference, however, is more than compensated by other faculties, particularly those of constructiveness and reflection, in which he greatly surpasses them. Keeping in view that the external world, in regard to Man, is arranged on the principle of the supremacy in him of the moral and intellectual faculties, we shall probably find that the calamities suffered by him from the law of gravitation are referable to predominance of the animal propensities, or to neglect of proper exercise of his intellectual powers.

For example, when coaches break down, when ships sink, or when men fall from ladders, how generally may the cause be traced to decay in the vehicle, the vessel, or the ladder, which a predominating acquisitiveness allowed to remain unrepaired; or when men fall from houses and scaffolds, or slip on the street, how frequently should we find their muscular, nervous, and mental energies impaired by preceding debaucheries—in other words, by predominance of the animal faculties—which for the time diminished their natural means of accommodating themselves to the law from which they suffer? The slater, in using a ladder, assists himself by the reflective powers; but in walking along the ridge of a house or standing on a chimney, he takes little or no aid from these faculties; he trusts to the mere instinctive power of equilibrium, in which he is inferior to the lower animals—and in so doing he clearly violates the law of his nature, that requires him to use reflection where instinct is deficient. Causality and constructiveness could invent and fashion means by which, if he slipped from a roof or a chimney, his fall might be arrested. A small chain, for instance, attached by one end to a girdle round his body, and having the other end fastened by a hook and eye to the roof, might leave him at liberty to move, and might break his fall in case he slipped.

The objection will probably occur that in the uncultivated condition in which the mental powers exist, the great body of mankind are incapable of exerting habitually that degree of moral and intellectual energy which is

indispensable to observance of the natural laws ; and that therefore they are less fortunate than the lower animals. I admit that, at present, this representation is to a considerable extent just ; but nowhere do I perceive the human mind instructed, and its powers exercised, in a degree at all approaching to their limits. Let anyone recollect how much greater capacity for enjoyment and feeling of security from danger he has experienced at a particular time, when his whole mind was filled with, and excited by, some mighty interest, not only allied to, but founded in, morality and intellect, than in that languid condition which accompanies the absence of elevated and ennobling emotions ; and he may form some idea of what man may achieve when his powers shall have been cultivated to the extent of their capacity.

At the present moment, no class of society is systematically instructed in the constitution of the mind and body, in the relations of these to external objects, in the nature of those objects, in the principle that activity of the faculties is the true source of pleasure, and that the higher the powers the more intense the delight ; and if such views be to the mind what light is to the eyes, air to the lungs, and food to the stomach, there is no wonder that a mass of inert *mentality*, so to speak, should everywhere exist around us, and that numberless evils should spring from this condition of the people. If active faculties, harmoniously gratified, are the natural fountains of enjoyment, and the external world is created with reference to this state, it is as obvious that misery must result from the animal supremacy and intellectual torpidity as that flame, which is constituted to burn only when supplied with oxygen, must inevitably become extinct when exposed to carbonic acid gas.

Finally, if the arrangement by which Man is left to discover and obey the laws of his own nature, and of the physical world, be more conducive to activity than intuitive knowledge, the calamities now contemplated may have been instituted to force him to his duty ; and the performance of his duty will constitute his delight.

While, therefore, we lament the fate of individual victims to the law of gravitation, we cannot condemn that law itself. If it were suspended to save men from the effects of negligence, not only might the proud creations of human skill totter to their base, and the human body rise from the

earth and hang midway in the air, but our highest enjoyments would be terminated, and our faculties would become useless, by being deprived of their field of action. If, for instance, the same cause did not always, *ceteris paribus*, produce the same effects, but if the physical laws were suspended or varied to accommodate themselves to Man's negligence or folly, it is obvious that the faculty of causality would be without an object, and that no definite course of action could be entered on with confidence in the result. If, on the other hand, this view of the constitution of nature were kept steadily in mind, the occurrence of one such accident would stimulate reflection to discover the means of avoiding others.

Similar illustrations and comments might be given in regard to the other physical laws to which Man is subject; but the object of the present chapter being merely to evolve principles, I confine myself to gravitation, as the most obvious and best understood.

I do not mean to say that by the mere exercise of intellect Man may absolutely guarantee himself against all accidents, but only that the more ignorant and careless he is, the more will he suffer, and the more intelligent and vigilant, the less; and that I can perceive no limits to this rule. The law of most civilised countries recognises this principle, and punishes owners of ships, coaches, and other vehicles for damage arising from infringements of the physical laws. It is unquestionable that the enforcement of this liability has given increased security to travellers.

SECT. II.—EVILS ARISING FROM INFRINGEMENT OF THE ORGANIC LAWS.

It is a very common error to imagine that the *feelings* of the mind are communicated to it through the medium of the *intellect*; and, in particular, that if no indelicate objects reach the eyes or expressions penetrate the ears, perfect purity will necessarily reign within. Proceeding on this mistake, some persons object to all discussion of the subjects treated of under the "Organic Laws" in works designed for general use. But their principle of reasoning is unsound, and the result has been detrimental to society. The *feelings* exist and possess activity distinct from the *intellect*; they spur it on to obtain their gratification; and

it may become either their guide or their slave, according as it is, or as it is not, enlightened concerning their constitution and objects, and the laws of nature to which they are subjected. The most profound philosophers have inculcated this doctrine, and by scientific observation it is demonstratively established.

The question, therefore, is, Whether it is more beneficial to enlighten the understanding that it may control and direct the feelings ; or (under the influence of an error in philosophy, and false delicacy founded on it) to permit the propensity to riot in all the fierceness of a blind animal instinct, withdrawn from the eye of reason, but not thus deprived of its vehemence and importunity ? The former course appears to me to be the only one consistent with reason and morality, and I shall follow it, in reliance on the good sense of my readers, that they will at once discriminate between practical instruction concerning this feeling addressed to the intellect, and lascivious representations of objects connected with it addressed to the propensity itself — with the latter of which the enemies of improvement may attempt to confound my observations. To the pure all things are pure. Every function of the mind and body has been instituted by the Creator ; each has a legitimate sphere of activity ; but all may be abused ; and it is impossible always to avoid the abuse of them, except by being instructed in their nature, objects, and relations. This instruction is therefore of the most beneficial kind.

An organised being is one which derives its existence from a previously existing organised being, which subsists on food, grows, attains maturity, decays, and dies. Whatever the ultimate object of the Creator in constituting organised beings may have been, it will scarcely be doubted that part of His design is that they should enjoy their existence here ; and if so, the object of every part of their structure should be to conduce to this end. To render an organised being perfect in its kind, the germ from which it springs must be complete in all its parts, and sound in its whole constitution ; and when it has been ushered into life, and as long as it continues to live, it must be supplied with air, light, and every aliment necessary for its support.

A third condition is that it shall duly exercise its functions. When the conditions are fulfilled, the being should enjoy pleasure from its organised frame if its Creator is benevolent ; and its constitution should be so adapted to

its circumstances as to admit of their fulfilment if its Creator is wise and powerful. Is there, then, no such phenomenon on earth as a human being existing in possession of full organic vigour from birth till advanced age, when the organic system is worn out? Numberless examples of this kind have occurred, and they show that the corporeal frame of Man is so constituted as to admit of the *possibility* of his enjoying health and vigour during the whole period of a long life.

In almost every country, indeed, persons are to be found who have been free from sickness during the whole course of a protracted life.

Now, this excellent health could not occur in individuals unless it were fairly within the capabilities of the race.

Let us assume, then, that the organised system of Man admits of the *possibility* of health, vigour, and organic enjoyment during the full period of life, and proceed to inquire into the causes why these advantages are not universal.

1. One condition of their possession, I have stated, is that the germ of the infant must be complete and sound in all its parts. If an agriculturist sow corn that is weak, wasted, or damaged, the plants that spring from it will be feeble, and liable to speedy decay. The same law prevails in the animal kingdom; but has it hitherto been observed by Man? Certainly it has not. Indeed, its existence has been either nearly unknown or greatly disregarded. The feeble, the sickly, the incompletely developed through extreme youth, and the exhausted with age, marry, and without considering what organisation they may transmit to their offspring, bring into the world miserable beings, the very rudiments of whose existence are tainted with disease.

If we trace such conduct to its source, we shall find it to originate in the supremacy of animal propensity or in ignorance, or in both. It implies an utter disbelief in the organic laws, and in their consequences being pre-ordained by God for the purpose of serving as a guide to rational beings in their marriages. The fruit of this conduct is debility and pain transmitted to the children, and reflected back in anxiety and sorrow to the parents.

From such observations as I have been able to make, I am convinced that the union of certain temperaments and combinations of mental qualities in the parents is highly conducive to health, talent, and morality in the offspring,

and that these conditions may be discovered and taught with greater certainty, facility, and advantage than is generally imagined. It will be time enough to conclude that men are naturally incapable of accommodating their conduct to the organic laws when, after their intellectual faculties and moral sentiments have been trained to observance of the Creator's institutions, as at once their duty, their interest, and a grand source of their enjoyment, they shall be found continually to resist them.

2. A second condition of health regards nutriment, which must be supplied of a suitable kind, and in due quantity. Free air also is requisite, with light, cleanliness, and attention to every physical arrangement by which the functions of the body may be strengthened. Have mankind acted in accordance with, or neglected, *this* organic law? I need scarcely answer the question. To be able to conform to the laws of our constitution, we must first know them. Before we can know the organic constitution of our body, we must study it; and the study of the human constitution comprises anatomy and physiology. Before we can become acquainted with its relations to external objects, we must learn the existence and qualities of these objects (unfolded by chemistry, natural history, and natural philosophy), and compare them with the constitution of the human body. When we have fulfilled these conditions, we shall be better able to discover the laws which the Creator has instituted in regard to our organic system.

It will be said, however, that such studies are impracticable to the great bulk of mankind; and, besides, that they do not appear much to benefit those who pursue them.

They are impracticable only while mankind prefer resting their public and private conduct on the basis of the propensities, instead of employing their intellectual faculties to discover, and their moral and religious sentiments to obey, the laws which God has ordained for their guidance.

The second objection, that those who study these sciences are not more healthy and happy than those who neglect them, admits of an easy answer. They may have inherited feeble frames from their parents. Besides, only parts of

* In Dr. Andrew Combe's works on "Physiology applied to Health and Education," "Digestion and Diet," and "The Management of Infancy," the organic laws are expounded in detail, and many striking examples are given of infringement of these laws, and of its injurious consequences.

these sciences have been communicated to a few, whose main design in studying them has been to apply them as means of acquiring wealth and fame ; but they have not been generally taught as connected parts of a great system of natural arrangements, fraught with the highest influences on human enjoyment ; and in almost no instance have the intellect and the moral sentiments been systematically directed to the natural laws as the grand fountains of happiness and misery to the race, and trained to conform to them as the institutions of the Creator. On this point, nearly universal infidelity to the Divine institutions pervades society. In cases where physiology, natural history, and natural philosophy have been properly studied, and the Divine authority of the rules of conduct which they reveal has been recognised, direct benefit *has* been derived from the study of them.

3. A third organic law is that all our functions shall be duly exercised ; and is this law observed by mankind ? Many persons are able, from experience, to attest the severity of the punishment that follows from omitting to exercise the *muscular system* in the lassitude, indigestion, irritability, debility, and general uneasiness that attend a sedentary and inactive life ; but the penalties that attach to neglect of exercising the *brain* are much less known. The brain is the fountain of nervous energy to the whole body, and many persons are habitual invalids, without actually labouring under any well-defined disease, solely from its defective or irregular exercise. In such cases, not only does the mind suffer debility in its feelings and intellectual capacities, but all the functions of the body participate in its languor, because all of them receive a diminished and vitiated supply of the nervous stimulus, a due share of which is essential to their healthy action.

The best mode of increasing the strength and energy of any organ is to exercise it regularly and judiciously, according to the laws of its constitution.* The brain is the organ of the mind. It is subject to the general laws of the organism, and is strengthened by the same means as the other organs. When the muscles are called into activity, they receive an increased supply of blood and nervous stimulus, and their vessels and fibres become at once larger, firmer,

* See Dr. A. Combe's "Physiology applied to Health, &c.," chapters vii. and xiii., fifteenth edition.

and more capable of action. Thought and feeling are to the brain what bodily exercise is to the muscles ; they are accompanied by increased circulation in its blood-vessels, and an augmented elaboration of nervous energy.

The first step, therefore, towards establishing the regular exercise of the brain is to educate and train the mental faculties in youth ; and the second is to place the individual habitually in circumstances demanding the discharge of useful and important duties.

I have often heard the question asked, What is the use of education ? The answer might be illustrated by explaining to the inquirer the nature and objects of the limbs, lungs, and eyes, and then by asking him if he could conceive how a being thus constituted could be benefited by obtaining access to earth, air, and light ? He would perceive that these must be of high utility to him, as affording means by which his organs could obtain scope for action, which action we suppose him to know to be pleasure. To those, then, who know the functions of the brain as the organ of the moral and intellectual powers of Man, I need only say that the objects presented by education to the mind bear to it the same relation that the physical elements of nature do to the nerves and muscles : they afford the faculties scope for action, and yield them delight. The meaning commonly attached to the word *education* is the acquisition of languages ; but I employ it here to indicate knowledge of nature and of useful artificial objects ; also accomplishments and training.

Again, the signification generally attached to the word *use* in the question is, the amount of *money*, *influence*, or *consideration* that education will bring—these being the only objects of strong desire with which uncultivated minds are acquainted ; and it is not perceived in what way education can greatly promote their attainment. But when the mind becomes acquainted with its own constitution and with the natural laws, the advantage of moral and intellectual cultivation, as a means of exercising and invigorating the brain and the mental faculties, and also of directing the conduct in obedience to those laws, becomes apparent.

The amount of nervous energy increases with the degree of activity of the cerebral organs. In the retreat of the French from Moscow, when no enemy was near, the soldiers became depressed in courage and enfeebled in body, and

nearly sank to the earth through exhaustion and cold ; but no sooner did the fire of the Russian guns sound in their ears, or the gleam of their bayonets flash in their eyes, than new life seemed to pervade them. They wielded powerfully the arms which, a few moments before, they could scarcely carry or drag on the ground. Scarcely, however, was the enemy repulsed, when their feebleness returned. The theory of this is that the approach of the combat called into activity a variety of additional faculties ; these sent new energy through every nerve ; and, while this vivacity was maintained by the external stimulus, it rendered the soldiers strong beyond their merely physical condition.

Many persons have probably experienced the operation of a similar influence. If we are sitting feeble and listless by the fire, and hear of an accident having occurred to some beloved friend who requires our instant aid, or if an unexpected visitor arrive in whom our affections are bound up—in an instant our lassitude is gone, and we move with an alertness and animation that seem surprising to ourselves.

Dr. Sparrman, in his voyage to the Cape, mentions a striking illustration of the principle. "There was now again," says he, "a great scarcity of meat in the waggon ; for which reason my Hottentots began to grumble, and reminded me that we ought not to waste so much of our time in looking after insects and plants, but give a better look-out after the game. At the same time, they pointed to a neighbouring dale overrun with wood, at the upper edge of which, at the distance of about a mile and a quarter from the spot where we then were, they had seen several buffaloes. Accordingly, we went thither ; but, though our fatigue was lessened by our Hottentots carrying our guns for us up a hill, yet we were quite out of breath and overcome by the sun before we got up to it. Yet, what even now appears to me a matter of wonder is *that as soon as we got a glimpse of the game, all this languor left us in an instant.* In fact, we each of us strove to fire before the other, so that we seemed entirely to have lost sight of all prudence and caution."

Men who have received from nature tolerably active brains, but who, from possessing a competency, are engaged in no profession, and, from not having enjoyed the advantages of a liberal education, take no interest in intellectual and moral pursuits for their own sake are in general

victims to the natural laws. Ignorant of these laws, they are prone to neglect mental and muscular exercise, and hence suffer the miseries arising from impeded circulation and impaired digestion. For want of objects on which the energy of their minds may be expended, the due stimulating influence of their brains on their bodies is withheld, and the effects of muscular inactivity are aggravated. All the functions consequently become enfeebled ; lassitude, uneasiness, anxiety, and a thousand evils, ensue ; and life becomes a mere endurance of suffering, through disregard of institutions calculated in themselves to promote happiness and afford delight when known and conformed to. This fate frequently overtakes uneducated women, whose early days have been occupied with business or with the cares of a family, but whose occupations have ceased before old age has diminished corporeal vigour. It overtakes also uneducated men who retire from active business in the prime of life. In some instances these evils accumulate to such a degree that the brain at length gives way, and insanity is the consequence.

It is worthy of remark that the more elevated the objects of our study, the higher in the scale are the mental faculties which are exercised ; and that the higher the faculties, the more pure and intense is the pleasure. Hence, a vivacious and regularly supported excitement of the moral sentiments and the intellect is highly favourable to health and corporeal vigour.

No reasonable person, after having his intellect imbued with a perception of, and belief in, the natural laws now explained, can desire continued idleness as a source of pleasure ; nor can he regard muscular exertion and mental activity, when not carried to excess, as anything else than enjoyments, vouchsafed to him by the benevolence of the Creator. The notion that moderate labour and mental exertion are evils can originate only from ignorance, or from viewing the effects of over-exhaustion as the natural result of labour, and not as the consequence of its excess, which the natural laws forbid.

If, then, we sedulously inquire, in each particular instance, into the *cause* of the sickness, pain, and premature death, or the derangement of the corporeal frame in youth and middle life, which we see so common around us, and endeavour to discover whether it originated in obedience to the physical and organic laws, or sprang from infringement of them, we

shall be able to form some estimate how far bodily suffering is justly attributable to imperfections of nature, and how far to our own ignorance and neglect of Divine institutions.

The foregoing principles being of much practical importance, they may with propriety be elucidated by a few examples. Two or three centuries ago, various cities in Europe were depopulated by the plague, and, in particular, London was visited by an awful mortality from this cause in the reign of Charles II. Some people of that age attributed the scourge to an inscrutable decree of Providence, and others to the magnitude of the nation's moral iniquities. According to the views now presented, it must have arisen from infringement of the *organic laws*, and have been intended to enforce stricter obedience to them in future.

There was nothing inscrutable in its causes or in its objects. The streets of London were then excessively narrow, the habits of the people dirty, their food poor, and no adequate provision was made for introducing a plentiful supply of water, or for removing the filth unavoidably produced by a dense population. The great fire in that city which happened soon after the pestilence afforded an opportunity for remedying in some degree the narrowness of the streets, while habits of increasing cleanliness abated the filth. These changes brought the condition of the people more into accordance with the laws of health, and the plague has not since returned.

It thus appears to have had no direct reference to the moral condition of the people; I say *direct* reference, because it would be easy to show that the physical and the organic laws are connected indirectly, and act in harmony, with the moral law; and that infringement of the latter often leads to disobedience of other laws, and brings a double punishment on the offender.

Till lately, thousands of children died yearly of the small-pox; but in our day, vaccine inoculation saves ninety-nine out of every hundred, who without its protection would have died.

A gentleman who died in the early part of this century at an advanced age told me that in his youth the country six miles west from Edinburgh was so unhealthy that every spring the farmers and their servants were seized with fever and ague, and underwent bleeding and a course of medicine to prevent attacks or to remove their effects. At that time

these visitations were believed to be sent by Providence, and to be inherent in the constitution of things. But, said my informant, after an improved system of agriculture and draining was established, and the numerous pools of stagnant water formerly left between the ridges of the fields were removed—after dunghills were carried to a distance from the doors, and the houses were made more spacious and commodious—every symptom of ague and marsh-fever disappeared from the district, and it became highly salubrious. In other words, as soon as the gross infringement of the organic laws was abated by a more active exertion of the intellectual and muscular powers of Man, the consequences of that infringement ceased.

Another friend informed me that about the end of last century he commenced farming in a high and uncultivated district of East Lothian; that at first the crops suffered severely in the spring from cold fogs, but that the region had since been reclaimed and drained, and the climate had greatly improved—in particular, the destructive mists had disappeared. The same results have followed in Canada and the United States of America, from similar operations.

In like manner, many calamities occurred in coal-pits in consequence of introducing lighted candles and lamps into places filled with hydrogen gas which had emanated from seams of coal, and which, by exploding, scorched and suffocated the men and animals within its reach. At length Sir Humphry Davy discovered that the Creator had established such a relation between flame, wire-gauze, and hydrogen gas, that, by surrounding and covering the flame with gauze, its power of setting fire to hydrogen was suspended. In consequence of this discovery, colliers are now able to carry, with safety, lighted lamps into places highly impregnated with inflammable air. The accidents from explosion which still occur in coal-mines arise from neglecting to keep the lamps in a proper state.

It is unnecessary to multiply examples in support of the proposition that the human organism in itself admits of a healthy existence from infancy to old age, provided its germ has been healthy, and its subsequent condition has been one in harmony with the physical and the organic laws. But it has been objected that, although the intellect may perhaps be adequate to discover these laws, and to record them in books, it is totally incapable of remembering them, and of formally applying them in every act of life. If, it is

said, we could not move a step without calculating the effects of gravitation, and adjusting the body to its influence—if we could never eat a meal without carefully considering how much we might swallow in accordance with the organic laws—life would be oppressed by the pedantry of knowledge, and rendered miserable by the observance of trivial details.

To this objection I reply that our faculties are adapted by the Creator to the external world, and act spontaneously when their objects are properly placed before them. In walking during the day on a footpath in the country, we adjust our steps to the inequalities of the surface without being overburdened by mental calculation. With so little trouble, indeed, do we perform this adjustment, that we are not aware of having made any particular mental or muscular effort. But on returning by the same path at night, when we cannot see, we stumble, and discover how important a duty our faculties had been performing during the day.

Now, the simple medium of light is sufficient to bring clearly before our eyes the inequalities of the ground; but to make the mind equally familiar with the countless objects which abound in external nature, and their relations, an intellectual light is necessary, which can be struck out only by exercising and applying the knowing and reflecting faculties. When that light is obtained, and the qualities and relationships in question are clearly perceived, our faculties, so long as the light lasts, will act spontaneously in adapting our conduct to the nature of the objects, just as they do in accommodating our movements to the unequal surface of the earth.

CHAPTER VII.

VALUE OF SCIENTIFIC EDUCATION.

AT present, physical and political science, morals, and religion are not taught as parts of one connected system ; nor are the relations between them and the constitution of Man pointed out to the people. Consequently, theoretical and practical knowledge are often widely separated. This ought not to be the case ; for many advantages would flow from systematic scientific education. Some of these may now be mentioned.

To begin with, the physical and the organic laws, when thoroughly known, appear to the mind as institutions of the Creator, wise and salutary in themselves, unbending in their operation, and universal in their application. They therefore interest our intellectual faculties, and strongly impress our sentiments. The duty of adapting our conduct to them comes home to us with the authority of a mandate from God.

While we confine ourselves to recommendations to beware of damp, to observe temperance, or to take exercise, as mere acts of prudence, without showing that God has pre-ordained painful consequences to follow from neglect, the injunction is addressed to only two or three faculties—cautiousness, for instance, and self-love, in him who receives it. But if we are instructed in the constitution of the physical world and of our organism—in the uses of the different parts of the human body, and the conditions of their healthy action—in the causes of their derangement and the pains consequent thereon—the intellect becomes deeply interested in the matter ; and if the obligation to comply with these conditions be enforced on our moral and religious sentiments as a duty imposed by the Creator, which we cannot neglect without suffering evil, then the motives to act in harmony with the physical and organic laws, as well as *the power of doing so*, will be greatly increased.

Before we can dance well, not only must we *know the motions*, but our muscles must be trained to *execute them* : and in like manner to enable us to act on precepts, not only

must we comprehend their meaning, but our intellects and sentiments must be disciplined into the habit of actual performance. The work of acquiring and practically using scientific information concerning the natural world, its qualities, and their relations, is to the intellect and sentiments what dancing is to the muscles—it *invigorates them*; and as it is from them that obedience to the natural laws must spring, the exercise renders it easy and delightful.

It is only by comprehending the causes on which consequences depend that we become thoroughly impressed with the *invariableness* of the physical and the organic laws, acquire confidence in and respect for them, and fairly endeavour to accommodate our conduct to their operation. The human faculties are spontaneously active, and desire gratification; but the intellect must have fixed data on which to reason. A man in whom the faculties of constructiveness and weight are powerful will naturally betake himself to constructing machinery; but if he be ignorant of the principles of mechanical science, he will not direct his efforts to such important ends, nor attain them with so much success, as if his intellect had been stored with this kind of knowledge. In like manner, a man may compose music by the impulses of the faculties of tune and time; but as there are immutable laws of harmony, he will not compose so correctly and in such good taste if he be ignorant of them as he would do if he knew them.

In every art and science there are principles referable solely to the constitution of nature, which admit of countless applications. By following the laws of harmony, a musician may produce gay, grave, solemn, or ludicrous tunes, but he will never produce one good piece by violating them. While the farmers near Edinburgh allowed stagnant pools to deface their fields, some seasons would be more healthy than others; and while the cause of disease was unsuspected, this would confirm them in the notion that health and sickness were dispensed by an over-ruling Providence on inscrutable principles. But the moment the cause was known, it would be found that the most healthy seasons were those which were cold and dry, and the most sickly those which were warm and moist. They would then discover that the salubrity of one year and the unwholesomeness of another were clearly referable to *one principle*; and after perceiving this truth, they would be more strongly

prompted to apply the remedy, and also rendered morally and intellectually more capable of doing so. If some intelligent friend had merely advised them to drain their fields and remove their dunghills, they probably would not have complied ; but whenever their intellects were led to the perception that nature was so constituted that the evil would continue until they acted in this manner, the improvement would be promptly effected.

The late Dr. Robert Macnish, of Glasgow, favoured me with the following communication, suggested by a perusal of the second edition of the present work :—" On four several occasions I have nearly lost my life from infringing the organic laws. When a lad of fifteen, I brought on, by excessive study, a brain-fever which nearly killed me ; at the age of nineteen I had an attack of peritonitis,* occasioned by violent efforts in wrestling and leaping ; while in France, nine years ago, I was laid up with pneumonia,† brought on by dissecting in the great galleries of La Pitié with my hat and coat off in the month of December, the windows next to me being constantly open ; and in 1829 I had a dreadful fever, occasioned by walking home from a party at which I had been dancing, on an exceedingly cold morning, without a cloak or great coat. I was for four months on my back, and did not recover perfectly for more than eighteen months.

" All these evils were entirely of my own creating, and arose from a foolish violation of laws which every sensible man ought to observe and regulate himself by. Indeed, I have always thought—and your book confirms me more fully in the sentiment—that by proper attention, crime and disease and misery of every sort could, in a much greater measure than is generally believed, be banished from the earth, and that the true method of doing so is to instruct people in the laws which govern their own frame." In 1837 Dr. Macnish was cut off by typhus fever in the prime of life.

The following case, also illustrative of the points under consideration, is one which I had too good an opportunity of observing in all its stages.

A person in whom it was my duty as well as pleasure to be greatly interested resolved to carry Mr. Robert Owen's

* Inflammation of the lining membrane of the abdomen.

† Inflammation of the lungs.

views into practical effect, and set on foot an establishment on his principles at Orbiston, in Lanarkshire. The labour and anxiety which he underwent at the commencement of the undertaking gradually impaired an excellent constitution ; and, without perceiving the change, he, by way of setting an example of industry, took to digging with the spade, and actually wrought for fourteen days at this occupation, although previously unaccustomed to labour. This produced hæmoptysis, or spitting of blood. Being now unable for such severe exertion, he gave up his whole time to directing and instructing the people—about 250 in number—and for two or three weeks *spoke the whole day*, the effusion of blood from his lungs continuing. Nature sank rapidly under this irrational treatment, and at last he came to Edinburgh for medical advice.

When the structure and uses of his lungs were explained to him, he saw that his treatment of them had been equally injudicious as if he had thrown lime or dust into his eyes after inflammation. He was struck with the extent and consequences of his ignorance, and exclaimed, “ How greatly should I have been benefited if one month of the five years which I was forced to spend in a vain attempt to acquire the Latin language had been dedicated to conveying to me information concerning the structure of my body, and the causes that preserve and impair its functions ! ”

He had departed too widely from the organic laws to admit of an easy return : he was seized with inflammation of the lungs, and with great difficulty survived that attack ; but it impaired his constitution so grievously, that he died after a lingering illness of eleven months. He acknowledged, however, even in his severest pain, that he suffered under a just law. The lungs, he perceived, were of prime importance to life, and a motive to their proper treatment was provided by instituting the painful consequences which followed from neglecting the conditions requisite to their health. Had he given them rest, and returned to obedience to the organic law at the first intimation of departure from it, the way to recovery was open ; but in ignorance, he persevered for weeks in direct opposition to the law, till the melancholy result ensued.

This last case affords a striking illustration of a principle already noticed—namely, *the independence of the different natural laws*, and the necessity of obeying *all* of them as a condition of safety and enjoyment. The person here

mentioned was deeply engaged in a most benevolent and disinterested experiment for promoting the welfare of his fellow-creatures ; and superficial observers would say that this was just an example of the inscrutable doings of Providence, which visited him with sickness, and ultimately with death, in the very midst of his most virtuous exertions. But the institutions of the Creator are wiser than the imaginations of such men. The first condition on which life and all its advantages depend is obedience to the physical and the organic laws. The benevolent Owenite, in his zeal to obey the moral law, neglected these, and suffered the consequences of his omission.

Some hold that it is a question purely of discretion or of prudence to obey or to disobey the physical and the organic laws, and that to attain an important and moral object we are justified in setting them at defiance. But in my opinion it is *impossible* to set them at defiance with success : in other words, to escape from the consequences which God has attached to the infringement of them. In cases in which we may be unavoidably ignorant of the natural laws, or be uncertain concerning the limit of our own ability to obey them, we may be *morally* justifiable in encountering the hazard of an infraction of them in the pursuit of a high and virtuous aim ; but we must never lose sight of the fact that if we do miscalculate and infringe them, the merits of our motives will not save us from the appointed consequences.

If we know the laws, it is our duty in every case to obey them as far as we can. A young medical practitioner danced at a ball all night, exhausted his organic system by fatigue, and in this condition, without sleeping and without taking food, proceeded to pay an early visit to a patient labouring under typhus fever. The object was a moral one, and he obeyed the call of professional duty ; but what was the consequence ? Within twenty-four hours of his visit he was seized with the same fever, and in ten days he died. Who gained by his thus setting the organic laws at defiance at the call of duty ? Obviously not the patient, for he never saw him again ; not the medical practitioner, for he died ; and not society, for it lost a valuable member.

Let me not, however, be misunderstood. I do not teach that in order to avoid infringement of the organic laws every one should fly from a patient affected with a contagious disease. My doctrine is simply this—that in attending such

a patient, every requisite of the organic laws which tends to diminish susceptibility of infection should be religiously complied with. The midnight dancing, by exhausting the body, prepared it to receive infection, and the want of food and sleep deprived it of a resisting power. If the young man had believed in the natural laws, he would either have avoided the ball, knowing his liability to be called on at all hours to visit patients labouring under dangerous diseases ; or have gone home to bed, and requested an unexhausted and well-fortified friend to visit the patient that morning in his place.

The physical and the organic laws, having been instituted by the same God who appointed the moral laws, are not likely to be inconsistent with them, nor are they so unimportant that we may justifiably treat them with disregard, according to our own short-sighted views either of expediency or of duty. If it were possible to evade the consequences of one law by obeying another, the whole field of Man's existence would be involved in inextricable disorder.

Another case was communicated to me by an actual observer. A gentleman far advanced in years fell into a state of bodily weakness which rendered the constant presence of an attendant necessary. A daughter in whom benevolence and veneration were largely developed devoted herself to this service with ceaseless assiduity. She was his companion for month after month, and year after year — happy in cheering the last days of her respected parent, and knowing no pleasure equal to that of solacing and comforting him. For months in succession she never left the house ; her duty became dearer to her the longer she discharged it, till at length her father became the sole object on earth of her feelings and her thoughts. The superficial observer would say that this conduct was admirable, and that she would receive from Heaven a rich reward for such becoming and virtuous devotion.

But Providence rules on other principles. Her enjoyment of mental happiness and vigour depended on the condition of her brain, and her brain was subject to the organic laws. These laws demand, as an indispensable condition of health, exercise in the open air and variety of employment, suited to maintain all the faculties in activity. She neglected the first in her constant attendance in her father's chamber ; and she overlooked the second in establishing him as the exclusive object of her regard. The result was that she

fell into bad health, with weakness of the brain, extreme irritability and susceptibility of mind, excessive anxiety and hysteria, bordering on symptoms even of insanity. At last some judicious friends interfered, and by forcing her (for it was much against her inclination) to leave for a time the object of her solicitude, they rescued her from death or confirmed mental derangement. If this case had been allowed to proceed uninterruptedly to its natural termination, many pious persons would have marvelled at the mysterious dispensations of Providence in afflicting so dutiful a daughter; whereas, when the principle of the Divine government is understood, the result appears neither wonderful nor perplexing.

Those who maintain that we are justified in setting the physical and organic laws at defiance for an adequate moral object should reflect on this case. Here every moral consideration dictated the line of conduct which the daughter pursued; but whom did she benefit by disregarding the organic laws of health? Not her father—because, by infringing them, she not only rendered herself incapable of soothing his declining years, but she actually embittered them by presenting to him the prospect of her own death or insanity as the result of her devotion to him. Not herself—because, by becoming, through her own acts, incapable of discharging her duty, she was mortified, disappointed, and distressed: besides, she endured great suffering in her own person as the consequence of her conduct. Did she honour God in devoting herself immoderately to her moral duties? No; because He required her, while she did so, to obey also His organic laws, obedience to which was quite compatible with fulfilment of the moral law; and hence she yielded to Him only half obedience.

In the works of religious authors may be found many erroneous views of Divine dispensations, traceable to ignorance of the natural laws. The Rev. Ebenezer Erskine, speaking of the state of his wife's mind, says: "For a month or two the arrows of the Almighty were within her, the poison whereof did drink up her spirits; and the terrors of God did set themselves in array against her." He called in the assistance of some neighbouring clergymen to join in prayers on her behalf, and she was induced to pray with them; but "she still continued to charge herself with the unpardonable sin, and to conclude that she was a castaway." Such feelings occurring to a woman of blameless life clearly

indicated diseased action in certain organs. "Before she fell into these depths," he continues, "she told me that the Lord gave her such a discovery of the glory of Christ as darkened the whole creation, and made all things appear as dung and dross in comparison of Him." These expressions indicated morbid excitement. She subsequently recovered her mental serenity; and her husband treats the whole phenomena as purely mental and religious. He, however, afterwards incidentally mentioned that she was subject to bad health, and that "melancholy was a great ingredient in her disease." We now know that melancholy is a consequence of certain diseases either directly or sympathetically affecting the brain.

It is further mentioned in the "Life of Mr. Erskine," that his wife bore several children to him while she was in precarious health, and that the situation "of the manse or parsonage-house was *unwholesome*." We are told also that in the year 1713 three of his children died; that one died in 1720; and that in 1723 a fifth was on the brink of death, but recovered.* He treats of all these events as "severe trials" and "sore afflictions," without having the least glimpse of their true causes, or their relation to the natural laws.

Another illustration may be added. Hannah More, in a letter to the Rev. John Newton, dated Cowslip Green, 23rd July, 1788, says: "When I am in the great world, I consider myself as in an enemy's country, and as beset with snares, and this puts me upon my guard. . . . Fears and snares seem necessary to excite my circumspection; for it is certain that my mind has more languor and my faith less energy here, where I have no temptations from without, and where I live in the full and constant perusal of the most beautiful objects of inanimate nature, the lovely wonders of the munificence and bounty of God. Yet, in the midst of His blessings, I should be still more tempted to forget Him were it not for frequent nervous headaches and low fevers, which I find to be wonderfully wholesome for my moral health."†

This passage contains several propositions that merit attention. First, in all well constituted and rightly in-

* "Life and Diary of the Rev. Ebenezer Erskine" (Edinburgh, 1831), pp. 266, 286, 290, 301, 320.

† "Memoirs of Hannah More," Vol. II., pp. 110, 111.

structed minds, "the most beautiful objects of inanimate nature," and "the lovely wonders of the munificence and bounty of God" are calculated, according to the natural laws, to invigorate the moral, religious, and intellectual faculties ; yet Hannah More's mind "had more languor, and her faith less energy," amidst such objects, than "when beset with snares." Secondly, according both to the natural laws and to Scripture, "evil communications corrupt good manners" ; but "when in the great world," and "in an enemy's country," her faith was improved. And thirdly, although "nervous headaches and low fevers" are the consequences of departures from the organic laws, and are intended to reclaim the sufferer to obedience, that the pain may cease—yet she "found them wonderfully wholesome for her moral health," and they prevented her from "forgetting God" !

Only disease or errors in education could have induced a woman so intelligent, so pious, and so estimable as Hannah More to present to the world such a series of propositions. Can we wonder that the profane should sneer, and that practical religion should advance slowly, when piety exhibits itself in such lamentable contradiction to the Divine institutions ; and still more so, when, from proceeding on a false theory, it contradicts itself ? In her Journal, in 1794, she writes : "Confined this week with four days' headache—an unprofitable time—thoughts wandering—little communion with God. *I see by every fresh trial that the time of sickness is seldom the season for religious improvement.* This great work should be done in health, or it will seldom be done well."* This passage is full of sound sense ; but it contradicts her previous assertion, that "nervous headaches and low fevers are wonderfully wholesome for moral health." If Hannah More had believed that God had instituted the corporeal organs, and imposed on her the obligation of fulfilling the conditions of health, she could not, with her strong sentiment of veneration and her excellent intellect, have acted and written as she did.

These examples, to which many more might be added, may serve as illustrations of the proposition : That without a knowledge of the philosophy of human nature, even religious authors, when treating of sublunary events, cannot always preserve consistency either with reason or with

* "Memoirs," Vol. II., p. 418.

themselves ; and that hence religion can never become thoroughly practical, or put forth its full energies for human improvement, until it be wedded to philosophy. In proportion as men shall become acquainted with the natural laws, and apply them as tests to theological writings relative to this world, they will become convinced of the truth of this observation.

CHAPTER VIII.

THE LAW OF HEREDITY.

THE justice and benevolence of rendering unhappy those who disregard natural qualities in marriage will become more striking when we consider *the effects of ill-assorted unions on the children.*

Physiologists in general are agreed that a vigorous and healthy constitution of body in the parents communicates existence in the most perfect state to the offspring; and the reverse. The transmission of various diseases from parents to children is a matter of universal notoriety: thus consumption, rheumatism, gout, scrofula, hydrocephalus, and insanity are well known to descend from generation to generation. Strictly speaking, it is not *disease* which is transmitted, but organs of such imperfect structure that they are liable to be thrown into a morbid condition by causes which sound organs could easily resist. Blindness is often, though not uniformly, an hereditary defect. There is a family in North America, some members of which have been affected with blindness for the last hundred years.* A medical friend writes:—"I have known more than one instance of blindness descending in families; and have also known instances where the parents were blind without the children labouring under this infliction."

"By a proper attention," says Dr. John Gregory, "we can preserve the breed of horses, dogs, cattle, and indeed all other animals. Yet it is amazing this observation was never transferred to the human species, where it would be equally applicable. It is certain that, notwithstanding our promiscuous marriages, many families are distinguished by peculiar circumstances in their character. This family character, like a family face, will often be lost in one generation, and appear again in the succeeding. Without doubt, education, habit, and emulation may contribute greatly in many cases to keep it up; but it will be generally found

* "New York Medical Repository," Vol. III., No. 1. See Dr. A. Combe's "Management of Infancy," chapter on the Influence of the Constitution of Parents on the Health of their Children.

that, independent of these, Nature has stamped an original impression on certain minds, which education may greatly alter or efface, but seldom so entirely as to prevent its traces being seen by an accurate observer.

“ How a certain character or constitution of mind can be transmitted from a parent to a child is a question of more difficulty than importance. It is indeed equally difficult to account for the external resemblance of features, or for bodily diseases being transmitted from a parent to a child. But we never dream of a difficulty in explaining any appearance of nature which is exhibited to us every day. A proper attention to this subject would enable us to improve not only the constitutions but the characters of our posterity. Yet we every day see very sensible people, who are anxiously attentive to preserve or improve the breed of their horses, tainting the blood of their children,* and entailing on them not only the most loathsome diseases of the body, but madness, folly, and the most unworthy dispositions—and this, too, when they cannot plead being stimulated by necessity or impelled by passion.”†

A French writer, who has written much sound as well as a good deal of false philosophy, observes that “ physical organisation, of which moral is the offspring, transmits the same character from father to son through a succession of ages. The Apii were always haughty and inflexible, the Catos always severe. The whole line of the Guises were bold, rash, factious ; compounded of the most insolent pride and the most seductive politeness. From Francis de Guise to him who, alone and in silence, went and put himself at the head of the people of Naples, they were all, in figure, in courage, and in turn of mind, above ordinary men. I have seen whole-length portraits of Francis de Guise, of the Balafré and his son : they were all six feet high, with the same features, the same courage and boldness in the forehead, the eye, and the attitude. This continuity, this

* To much the same effect Roger Ascham wrote more than two centuries ago: “ It is pity that commonly more care is had, yea, and that among very wise men, to find out rather a cunning man for their horse than a cunning man for their children God that sitteth in heaven laugheth their choice to scorn ; for He suffereth them to have tame and well-ordered horse, but wild and unfortunate children.”—ED. 1893.

† “ Comparative View of the State and Faculties of Man with those of the Animal World ” (3rd edit., Lond., 1766), pp. 18, 19,

series of beings alike, is still more observable in animals ; and if as much care were taken to perpetuate fine races of men as some nations still take to prevent the mixing of the breeds of their horses and hounds, the genealogy would be written in the countenance and displayed in the manners.”*

Dr. King, in speaking of the fatality which attended the House of Stewart, says : “If I were to ascribe their calamities to another cause (than an evil fate), or endeavour to account for them by any natural means, I should think they were chiefly owing to a certain *obstinacy of temper*, which appears to have *been hereditary and inherent* in all the Stewarts except Charles II.”

It is well known that of all the castes in Hindustan, that of the Brahmins is the highest in intelligence as well as in rank ; and it is mentioned by the missionaries as an ascertained fact that *their* children are naturally more acute, intelligent, and docile than the children of the inferior castes, age and other circumstances being equal.

The character of the mother seems to have great influence in determining the qualities of the children, particularly when she has much force of character, and is superior in mental energy to her husband. There is perhaps no instance of a man of distinguished vigour and activity of mind whose mother did not display a considerable amount of the same qualities ; and the fact of eminent men having so frequently children far inferior to themselves is in most cases explicable by the circumstance that men of talent often marry women whose minds are comparatively weak. When the mother’s brain is very defective, the minds of the children are feeble. “We know,” says Haller, “a very remarkable instance of two noble women, who were married on account of their wealth, although they were nearly idiots, and from whom the mental defect has extended for a century into several families, so that some of all their descendants still continue idiots in the fourth and even the fifth generation.”† In many families the qualities of both father and mother are seen blended in the children.

“In my own case,” says a medical friend, “I can trace a very marked combination of the qualities of both parents.

* “Voltaire’s Philosophical Dictionary”; article *CATO*.

† “Study of Medicine,” 2d edit., Vol. IV., p. 187.

My father is a large-chested, strong, healthy man, with a large but not active brain ; my mother was a spare, thin woman, with a highly nervous temperament, a rather delicate frame, and a mind of uncommon activity. Her brain I should suppose to have been of moderate size. I often think that to the father I am indebted for a strong frame and the enjoyment of excellent health, and to the mother for activity of mind and an excessive fondness for exertion. These things, and a hundred more, have been brought to my mind by the perusal of 'The Constitution of Man.' Finally, it often happens that the mental peculiarities of the father are transmitted to some of the children, and those of the mother to others.

Mental qualities, then, are determined by the form and constitution of the brain ; and these are transmitted by hereditary descent. This law, however faint or obscure it may appear in individual cases, becomes absolutely undeniable in that of nations. When we place in juxtaposition a number of Esquimo, Hindu, and Swiss skulls, we perceive a national form and distinctive peculiarities in each race, obtruding itself upon our notice, and corresponding with the mental characters of the respective tribes ; the cerebral development of one tribe is seen to differ as widely from that of another as the European mind does from that of the Hindu. Each Esquimo and Hindu inherits from his parents a certain general type of head ; and so does each European. And if the general forms of brain are thus palpably transmitted, can we doubt that the individual varieties follow the same rule, modified slightly by causes peculiar to the parents of the individual ?

The differences of national *character* are as conspicuous as those of national *brain*, and it is surprising how permanently both endure. It is observed by an author, cited in the *Edinburgh Review*, that "the Vicentine district is, as every one knows, and has been for ages, an integral part of the Venetian dominions, professing the same religion and governed by the same laws as the other continental provinces of Venice : yet the English character is not more different from the French than that of the Vicentine from the Paduan ; while the contrast between the Vicentine and his other neighbour, the Veronese, is hardly less remarkable." *

* *Edin. Rev.*, Vol. XLII., p. 459.

An undeniable proof of the effect produced on the character and dispositions of children by the form of brain transmitted to them by hereditary descent is to be found in the progeny of marriages between Europeans, whose brains possess a favourable development of the moral and intellectual organs, and Hindus and American Indians, whose brains are inferior. All authors agree (and report the circumstance as singularly striking) that the children of such unions are decidedly superior in mental qualities to the native, while they are still inferior to the European parent. Sir John Franklin says that the half-breed American Indians "are, upon the whole, a good-looking people, and where the experiments have been made, have shown much expertness in learning and willingness to be taught ; they have, however, been sadly neglected."* He adds : "It has been remarked, I do not know with what truth, that half-breeds show more personal courage than the pure breeds."

The writers on South America mention that the offspring of aboriginal and Spanish parents constitute the most active, vigorous, and powerful portion of the inhabitants of these countries, and that many of them rose to high commands during the revolutionary war. So similar is the case of the mixed race in Hindustan, that several authors have already pointed to them as destined to become the future sovereigns of India. They inherit from the native parent a certain adaptation to the climate, and from the European a higher development of brain ; the two combined constituting their superiority.

If, then, form and constitution of brain are transmitted from parents to children, and if these determine the natural talents and dispositions, which in their turn exercise the greatest influence on the happiness of individuals through life, it becomes extremely important to discover the laws according to which this transmission takes place. At the first aspect of the question, three views present themselves for our consideration. In the *first* place, Is the constitution of brain, which the parents themselves inherited at birth, transmitted absolutely, so that the children, sex following sex, are exact copies, without variation or modification, of the one parent or the other ? Or, *secondly*, Are the natural and inherent qualities of the father and mother combined, and transmitted in a modified form to the offspring ? Or,

* "First Journey," p. 86.

thirdly, Are the qualities of the children determined jointly by the constitution of the stock, and by the faculties which predominate in power and activity in the parents at the particular time when the organic existence of each child commences ?

We learn by observation that the *first* is not the law ; for, as often mentioned, a real law of nature admits of no exceptions. It is well established that the brains of children are *not exact copies*, without variation or modification, of those of the parents, sex following sex. Neither can the *second* be the law ; because it is equally certain that the brains of children, although *sometimes*, *are not always*, exactly blended reproductions of those of the father and mother. If this law prevailed, no child would be a copy of the father, none a copy of the mother or of any collateral relation ; but each would be invariably a compound of the two parents, and all the children would be exactly alike, sex alone excepted. Observation enables us to say that this is not the law. What, then, does experience say to the *third* idea : that the form of the brain of each child is determined by the particular qualities of the stock, combined with those which predominated in the parents when its existence commenced ?

Firstly, We may suppose the law of hereditary descent to apply to all qualities, whether good or bad.

I have already adverted to the influence of the stock, and shall now illustrate that of the condition of the parents when existence is communicated. For this purpose we may consider—*1st*, The transmission of factitious or temporary conditions of the body ; *2dly*, The transmission of acquired habits ; *3dly*, The appearance of peculiarities in children in consequence of impressions made on the mind of the mother ; and, *4thly*, The transmission of temporary mental and bodily qualities.*

1. With respect to the first of these topics, Dr. Prichard states the result of his investigation to be, *first*, that the organisation of the offspring is always modelled according to the type of the *original structure* of the parent ; and *secondly*, “that changes produced by external causes in the appearance or constitution of the individual are temporary ;

* On these questions the reader will find much information and material for reflection in Mr. Darwin's treatise “On the Origin of Species by means of Natural Selection” ; London, 1860. See also an article in the *British Quarterly Review* for January, 1859.—Ep.

and, in general, acquired characters are transient—they terminate with the individual, and have no influence on the progeny."* He supports the first of these propositions with a variety of facts occurring in the Porcupine family, in the hereditary nature of complexion, and in the growth of supernumerary fingers or toes, and corresponding deficiencies. "Maupertuis has mentioned this phenomenon: he assures us that there were two families in Germany who had been distinguished for several generations by six fingers on each hand, and the same number of toes on each foot," &c. Dr. Prichard, at the same time, admits that the *second* proposition is of more difficult proof, and that "an opinion contrary to it has been maintained by some writers, and a variety of singular facts have been related in support of it." But many of these relations, as he justly observes, are obviously fables. The following facts, however, certainly militate against it.

A man's first child was of sound mind; afterwards he had a fall from his horse, by which his head was much injured. His next two children proved to be idiots. After this he was trepanned, and had two other children, and they were of sound mind. This case was communicated to me by a medical practitioner of Douglas, in the Isle of Man.

2. There are some curious facts which seem to prove that *acquired habits* are hereditary, at least in the inferior animals. A strong illustration is quoted in the *Edinburgh Review*, Vol. XLII, p. 457:—

"Every one conversant with beasts," says the writer, "knows that not only their natural but that many of their acquired qualities are transmitted by the parents to their offspring. Perhaps the most curious example of the latter fact may be found in the Pointer.

"This animal is endowed with the natural instinct of winding game, and stealing upon his prey, which he surprises, having first made a short pause, in order to launch himself upon it with more security of success. This sort of *semicolon* in his proceedings Man converts into a *full stop*, and teaches him to be as much pleased at seeing the bird or beast drop by the shooter's gun as at taking it himself. The staunchest dog of this kind, and the original pointer, is of Spanish origin, and our own is derived from this race,

* "Researches into the Physical History of Mankind," Vol. II., p. 536.

crossed with that of the foxhound or other breed of dog, for the sake of improving his speed.

“This mixed and factitious race, of course, naturally partakes less of the true pointer character : that is to say, is less disposed to stop, or at least, he makes a shorter stop, at game. *The factitious pointer is, however, disciplined, in this country, into staunchness ; and, what is most singular, this quality is, to a certain degree, inherited by his puppy,* who may be seen earnestly standing at swallows or pigeons in a farm-yard. For intuition, though it leads the offspring to exercise his parent’s faculties, does not instruct him how to direct them. The preference of his master afterwards guides him in his selection, and teaches him what game is better worth pursuit. On the other hand, the pointer of pure Spanish race, unless he happens to be well broke himself—which in the south of Europe seldom happens—produces a race which are all but unteachable, according to our notions of a pointer’s business. They will make a stop at their game, as natural instinct prompts them, but seem incapable of being drilled into the habits of the animal which education has formed in this country, and has rendered, as I have said, in some degree capable of transmitting his acquirements to his descendants.

“Acquired habits are hereditary in other animals besides dogs. English sheep, probably from the greater richness of our pastures, feed very much together ; while Scotch sheep are obliged to extend and scatter themselves over their hills for the better discovery of food. Yet the English sheep, on being transferred to Scotland, *keep their old habit of feeding in a mass*, though so little adapted to their new country ; so do their descendants ; and the English sheep is not thoroughly naturalised into the necessities of his place *till the third generation*. The same thing may be observed as to the nature of his food that is observed in his mode of seeking it. When turnips were introduced from England into Scotland, *it was only the third generation* which heartily adopted this diet, the first having been starved into an acquiescence in it.

“It has been remarked also that in Spanish America the amble, the pace to which the domestic horse is there exclusively trained, becomes in the course of some generations hereditary, and is assumed by the young ones without teaching.”*

* “Encyclopædia Britannica,” *loc. cit.*

3. *Impressions on the mind of the mother*, especially those received through the senses, often produce a palpable effect on the offspring. On this subject Dr. Prichard observes : "The opinion which formerly prevailed, and which has been entertained by some modern writers, among whom is Dr. Darwin, that at the period when organisation commences in the ovum—that is, at or soon after the time of conception—the structure of the foetus is capable of undergoing modification from impressions on the mind or senses of the parent, does not appear altogether so improbable. It is contradicted, at least, by no fact in physiology. It is an opinion of very ancient prevalence, and may be traced to so remote a period, that its rise cannot be attributed to the speculations of philosophers ; and it is difficult to account for the origin of such a persuasion, unless we ascribe it to facts which happened to be observed."

The following case fell under my own observation :—W. B., a shoemaker in Edinburgh, called and showed me his son, aged eighteen, who was in a state of idiocy. He was simple and harmless, but never could do anything for himself. The father said that his wife was sound in mind ; that he had three other children all sound ; and that the only account he could ever give of the origin of the condition of this son was the following : He kept a small tavern ; and some months before the birth of this boy an idiot lad came to his house with a brewer's drayman, and helped him to lift casks off the cart into the cellar. The idiot made a strong impression on his wife, and she complained that she could not get his appearance removed from her mind, on which account she afterwards kept out of the way when he came to the house. The son was weak in body and silly in mind from birth, and had the slouched and slovenly appearance of the idiot.

"It is peculiarly lamentable to observe," says Dr. Mason Good, in reference to deafness and dumbness, "that when the defect has once made an entrance into a family, whether from the influence it produces on the nervous system of the mother, or from any other less obvious cause, it is particularly apt to become common to those children which are born afterwards ; insomuch that we often meet with a third, or a half, and, in a few instances, where the first-born has been thus affected, with every individual of the progeny, suffering from the same distressing evil. 'The late investigation in Ireland discovered families in which there were two, three,

four, or more, thus circumstanced. In one family there were five children all deaf and dumb ; in another, seven ; in another, ten ; and in that of a poor militia officer on half-pay, there were nine born deaf and dumb in succession.* Yet it is consoling to reflect that the defect is not always propagated to a succeeding generation when the deaf-dumb have married, and even when both the husband and wife have been thus afflicted.†

Dr. Prichard, in his *Researches*, already quoted, observes : "Children resemble, in feature and constitution, both parents, but I think more generally the father. In the breeding of horses and oxen great importance is attached by experienced propagators to the male. In sheep, it is commonly observed that black rams beget black lambs. In the human species, also, the complexion chiefly follows that of the father ; and I believe it to be a general fact that the offspring of a *black father* and white mother is *much darker* than the progeny of a *white father* and a dark mother." (Vol. II., p. 551.) These facts appear to me to be referable to both causes. The stock must have had some influence, but the mother, in all these cases, is not impressed by her own colour, because she does not look on herself ; while the *father's* complexion most strikingly attracts her attention, and may, in this way, give the darker tinge to the offspring.‡

4. The theory of the transmission of *temporary mental and bodily qualities* is supported by numerous facts tending to show that the state of the parents, particularly of the mother, at the time when the existence of the child commences, has a strong influence on its talents, dispositions, and health.

"The father of Napoleon Buonaparte," says Sir Walter Scott, "is stated to have possessed a very handsome person, a talent for eloquence, and a vivacity of intellect, which he transmitted to his son. It was in the middle of civil discord, fights, and skirmishes that Charles Buonaparte married Lætitia Ramolini, one of the most beautiful young women of the island, and possessed of a great deal of

* "Quart. Jour. of Foreign Med.," Vol. I., p. 321.

† "Good's Study of Medicine," 4th edition, Vol. I., p. 419. The editor Mr. Samuel Cooper, adds, "Still, it is said that such propagation is not uncommon ("Edin. Med. Jour.," Vol. VII., p. 62) ; and as deafness is, without doubt, often hereditary, the experiment of marriage should be carefully avoided."

‡ Black hens, however, lay dark-coloured eggs.

firmness of character. She partook of the dangers of her husband during the years of civil war, and is said to have accompanied him on horseback on some military expeditions, or perhaps hasty flights, shortly before her being delivered of the future Emperor.*

The murder of David Rizzio was perpetrated by armed nobles, with many circumstances of violence and terror, in the presence of Mary, Queen of Scotland, shortly before the birth of her son, afterwards James I. of England. The constitutional timidity of this monarch is recorded as a characteristic, and it has been mentioned that he even started involuntarily at the sight of a drawn sword. Queen Mary was not deficient in courage, and the Stewarts, both before and after James I., were distinguished for this quality ; so that his timid disposition was an exception to the family character. Napoleon and James form striking contrasts, and it may be remarked that the mind of Napoleon's mother appears to have risen to the danger to which she was exposed, and braved it ; while the circumstances in which Mary was placed were such as must have inspired her with violent fear.

Esquirol, a celebrated French physician, in treating of the causes of mental derangement, mentions that many children whose existence dated from periods when the horrors of the French Revolution were at their height subsequently became weak, nervous, and irritable in mind, extremely susceptible of impressions, and liable to be thrown by the least extraordinary excitement into absolute insanity.

"I know," says the medical friend already referred to, "an old gentleman who has been twice married. The children of his first marriage are strong, active, healthy people, and their children are the same. The produce of the second marriage are very inferior, especially in an intellectual point of view ; and the younger the children are, the more is this obvious. The girls are superior to the boys, both physically and intellectually ; indeed, their mother told me that she had great difficulty in rearing her sons, but none with her daughters. The gentleman himself, at the time of his second marriage, was upwards of sixty, and his wife about twenty-five. This shows very clearly that the boys have taken chiefly of the father, and the daughters of the mother."

* "Life of Napoleon Buonaparte," Vol. III., p. 6.

A lady possessing a large brain and active temperament was employed professionally as a teacher of music. Her husband also had a fine temperament and a well-constituted brain, but his talents for music were only moderate. They had several children, all of whom were produced while the mother was in the full practice of her profession, and all now indicate superior musical abilities. They have learned to play on several instruments as if by instinct, and highly excel. In this case the original endowments of the mother, and her actual exercise of them, conspired to transmit them to her children.

The Margravine of Anspach observes that "when a woman is likely to become a mother, she ought to be doubly careful of her temper ; and, in particular, to indulge no ideas that are not cheerful, and no sentiments that are not kind. Such is the connection between the mind and body, that the features of the face are moulded commonly into an expression of the internal disposition ; and is it not natural to think that an infant, before it is born, may be affected by the temper of its mother ? "*

When two persons marry very young, the eldest of their children generally inherits a less favourable development of the moral and intellectual faculties than those produced in mature age. The animal organs in the human race are, in general, most vigorous in early life, and this energy appears to cause them to be then more strongly transmitted to offspring. Indeed, it is difficult to account for the wide varieties in the mental constitution of children of the same family, except on the principle that the faculties which predominate in vigour and activity in the parents, at the time when existence begins, determine the tendency of corresponding faculties to develop themselves largely in the children. The facts illustrative of the truth of this principle, which have been communicated to me and observed by myself, are so numerous that I regard it as highly probable.

If this be the law of nature, parents in whom combative-ness and destructiveness are habitually active will transmit these faculties to their children, with a constitutional tendency to high development and excitement ; while parents in whom the moral and intellectual faculties reign supreme will transmit these in predominant activity.

This view is in harmony with the fact that children

* "Memoirs," Vol. II., chap. viii.

generally, although not universally, resemble their parents in their mental qualities. The habitual mental condition of the parents will be determined by the qualities which predominate in their own brains; and, on the principle that predominance in activity and energy causes the transmission of similar qualities to the offspring, the children will generally resemble the parents. But they will not always do so; because even inferior characters, in whom the moral and intellectual faculties are deficient, may be occasionally exposed to external influences which, for the time, may excite them to unwonted vivacity; and, according to the rule now explained, a child dating its existence from that period may inherit a brain superior to that of the parent.

On the other hand, a person with an excellent moral development may, by some particular occurrence, have his animal propensities roused to more than usual vigour, and his moral sentiments thrown for a time into the shade; and any offspring connected with this condition would prove inferior to himself in the development of the moral qualities, and greatly surpass him in the propensities.

It is a general remark that talent is not always hereditary. Two explanations may be offered of this fact. If the mental superiority belong only to one of the parents, it may disappear in those of the children who most closely resemble the other. Or, which also is a common occurrence, very energetic minds neglect the laws of health, exhaust and wear out the vital organs of the body, and hence transmit feeble constitutions to their offspring.

I repeat that I present these views merely as inferences strongly supported by facts, and consistent with known phenomena. If we suppose them to be true, they will greatly strengthen the motives for preserving the *habitual* supremacy of the moral sentiments and the intellect; since, by our doing so, improved moral and intellectual capacities may be conferred on offspring. If the world is arranged in harmony with all the faculties—the moral and intellectual powers, in cases of conflict, holding the supremacy—what a noble prospect would this law open up of the possibility of Man's ultimately becoming capable of placing himself more fully in accordance with the Divine institutions than he has hitherto been able to do, and, in consequence, of reaping numberless enjoyments that appear destined for him by his

Creator, and of avoiding thousands of miseries that now render life too often only a series of calamities.

The views here expounded also harmonise with the principle maintained in a former part of this Work—that, as activity in the faculties is the fountain of enjoyment, the whole constitution of nature is designedly framed to support them in that state. What scope for observation, reflection, exercise of the moral sentiments, and the regulation of animal impulse, does not this picture of nature present !

It is remarkable to what extent mere pecuniary interest excites men to investigate and observe the natural laws, while moral and rational considerations exert so small an influence in leading them to do so. Before an insurance company will undertake the risk of paying £100 on the death of any one, the following or similar questions must be answered by credible and intelligent witnesses :—

- “ 1. How long have you known Mr. A. B. ?
- “ 2. Has he had the gout ?
- “ 3. Has he had a spitting of blood, asthma, consumption, or other pulmonary complaint ?
- “ 4. Do you consider him at all pre-disposed to any of these complaints ?
- “ 5. Has he been afflicted with fits or mental derangement ?
- “ 6. Do you think his constitution perfectly good, in the common acceptation of the term ?
- “ 7. Are his habits in every respect strictly regular and temperate ?
- “ 8. Is he at present in good health ?
- “ 9. Is there anything in his form, habits of living, or business which you are of opinion may shorten his life ?
- “ 10. What complaints are his family most subject to ?
- “ 11. Are you aware of any reason why an insurance might not safely be effected on his life ?”

CHAPTER IX.

MARRIAGE AND THE ORGANIC LAWS.

A MAN and a woman about to marry have, on an average the health and happiness of five human beings depending on their attention to considerations essentially the same as those described in the last chapter ; and yet, how much less scrupulous are they than the dealers in money ! "Before the parties," says Dr. Caldwell, "form a compact fraught with consequences so infinitely weighty, let the constitution and education of both be matured. They will then not only transmit to their offspring a better organisation, but be themselves, from the knowledge and experience they have attained, better prepared to improve it by cultivation. For I shall endeavour to make it appear that cultivation can improve it. When a skilful agriculturist wishes to amend his breed of cattle, he does not employ for that purpose immature animals. On the contrary, he carefully prevents their intercourse.

"Experience, moreover, teaches him not to expect fruit of the best quality from immature fruit-trees or vines. The product of such crudeness is always defective. In like manner, marriages between boarding-school girls and striplings in or just out of college ought to be prohibited. In such cases prohibition is a duty, no less to the parties themselves than to their offspring and society. Marriages of the kind are rarely productive of anything desirable. Mischief and unhappiness of some sort are their natural fruit. Patriotism, therefore, philanthropy, and every feeling of kindness to human nature, call for their prevention. Objections resting on grounds not altogether dissimilar may be justly urged against young women marrying men far advanced in years. Old men should in no case contract marriages likely to prove fruitful. Age has impaired their constitutional qualities, which descending to their offspring, the practice tends to deteriorate our race. It is rare for the descendants of men far advanced in years to be distinguished for high qualities either of body or of mind.

"As respects persons seriously deformed, or in any way constitutionally enfeebled—the rickety and club-footed, for

instance, and those with distorted spines, or who are predisposed to insanity, scrofula, pulmonary consumption, gout, or epilepsy—all persons of this description should conscientiously abstain from matrimony. In a special manner, where both the male and female labour under an hereditary taint, they should make it a part of their duty to God and their posterity never to be thus united. Marriage in such individuals cannot be defended on moral ground, much less on that of public usefulness. It is selfish to an extent but little short of crime. Its abandonment or prevention would tend, in a high degree, to the improvement of mankind.”*

I am indebted for the following particulars to the medical gentleman already repeatedly quoted, who was induced to communicate them by the perusal of an early edition of the present treatise :—“ If your Work has no other effect than that of turning attention to the laws which regulate marriage and propagation, it will have done a vast service, for on no point are such grievous errors committed. I often see in my own practice the most lamentable consequences resulting from neglect of these laws. There are certain families which I attend, where the constitutions of both parents are bad, and where, when anything happens to the children, it is almost impossible to cure them. An inflamed gland, a common cold, hangs about them for months, and almost defies removal. In other families, where the parents are strong and healthy, the children are easily cured of almost any complaint.

“ I know a gentleman aged fifty, the only survivor of a family of six sons and three daughters, all of whom, with the exception of himself, died young of pulmonary consumption. He is a little man, with a narrow chest, and married a lady of a delicate constitution and bad lungs. She is a tall spare woman, with a chest still more deficient than his own. They have had a large family, all of whom die off regularly as they reach manhood and womanhood, in consequence of affections of the lungs. In the year 1833, two sons and a daughter died within a period of ten months. Two still survive, but they are both delicate, and there can be no doubt that when they arrive at maturity they will follow the rest. This is a most striking instance of punishment under the organic laws.”

* “Thoughts on Physical Education and the True Mode of Improving the Condition of Man,” 2nd British edition, p. 9; Edin. 1844.

It is pleasing to observe that in Würtemberg there are two excellent laws, calculated to improve the moral and physical condition of the people, which other States would do well to adopt. First, "It is illegal for any young man to marry before he is twenty-five, or any young woman before she is eighteen ; and a young man, at whatever age he wishes to marry, must show to the police and the priest of the commune where he resides that he is able, and has the prospect, to provide for a wife and family." The second law compels parents to send their children to school from the age of six to fourteen years.*

There is no moral difficulty in admitting and admiring the wisdom and benevolence of the institution by which *good* qualities are transmitted from parents to children ; but it is frequently held as unjust to the latter that they should inherit parental *deficiencies*, and be made to suffer for sins which they did not commit.

With a view to answering this objection, let us, 1stly, suppose the law of hereditary descent to be abrogated altogether—that is to say, the natural qualities of each individual of the race to be conferred at birth, without the slightest reference to what his parents had been or done ; it is clear that this form of constitution would have excluded the means of improvement of *the race*. The brains of the New Hollanders and other savage tribes are distinguished by great deficiencies in the moral and intellectual organs.

Now, if a considerable development of these is indispensable to the comprehension of science and the practice of virtue, it would, on the present supposition, be impossible to raise the New Hollanders, as a people, one step higher in capacity for intelligence than that they now occupy. We might cultivate each generation up to the limits of its powers, but there the improvement (and a low one it would be) would stop ; for, the next generation being produced with brains equally deficient in the moral and intellectual regions, no principle of increasing amelioration would exist. The same remarks are applicable to every tribe of mankind. If we assume modern Europeans as a standard —then, if the law of hereditary descent were abrogated, every deficiency which at this moment is attributable to imperfect or disproportionate development would be irremediable by human means, and would continue

* See Mr. Loudon on the Marriage Laws of Germany.

while the race existed. Each generation might be cultivated till the summit-level of its capacities was attained, but higher than this no succeeding generation could rise.

When we contrast with such a prospect the very opposite effects flowing from the law of hereditary transmission of qualities in an increasing ratio, the whole advantages are perceived to be on the side of the latter arrangement. According to this rule, the children of those who have obeyed the organic, the moral, and the intellectual laws will, when well educated, not only start from the highest level of their parents in acquired knowledge, but will inherit an enlarged development of the moral and intellectual faculties, and will thus enjoy an increasing capability of discovering and obeying the institutions of the Creator.

It is a remarkable fact that whole tribes of mankind attain to a certain point of civilisation, beyond which, so far as history records, they do not appear spontaneously to advance. Some aboriginal American tribes apparently continued savage for thousands of years, while others stopped short at a low grade of cultivation. Chinese and Hindu civilisation seems to have been long stationary.

Mr. Timothy Flint, a Presbyterian clergyman, who passed ten years, commencing in 1815, in wanderings and preaching in the valley of the Mississippi, says of the Indians among whom he lived that "they have not the same acute and tender sensibilities with the other races of men. They seem callous to every passion but rage. . . . Their impossible fortitude and endurance of suffering, which have been so much vaunted, are, after all, in my mind, the result of a greater degree of physical insensibility. . . . No ordinary stimulus excites them to action. None of the common excitements, endearments, or motives operate upon them at all. They seem to hold most of the things that move us in proud disdain. The horrors of their warfare, the infernal rage of their battles, the demoniac fury of gratified revenge, the alternations of hope and despair in their gambling, to which they are addicted far beyond the whites, the brutal exhilaration of drunkenness—these are their excitements." He concludes: "It strikes me that Christianity is the religion of civilised man; that the savages must first be civilised; and that, as there is little hope that the present generation of Indians can be civilised, there is but little more that they will be Christianised."

2dly. We may suppose the law of hereditary descent to be limited to the transmission of good qualities, and abrogated as to the transmission of bad ones ; and it may be thought that such an arrangement would be more benevolent and just. But to this view there are objections, which do not occur to the mind without reflection. We see that a vicious and debased parent is actually defective in the moral and intellectual organs. Now, if his children should inherit exactly the same development as himself, this would be the transmission of imperfections, which is the thing objected to ; while, if they were to receive a development fixed by Nature, and not at all referable to that of the parent, this would render the whole race stationary in their first condition, without the possibility of improvement in their capacities. But the bad development may be supposed to transmit, by hereditary descent, a good development.

This, however, would set at nought the supremacy of justice and benevolence ; it would render the consequences of contempt for and violation of the Divine laws, and of obedience to them, by the parents, in this particular, precisely alike. The debauchee, the cheat, the murderer, and the robber would be able to look on the prospects of their posterity with the same confidence in their welfare and happiness as the pious intelligent Christian who had continually sought to know God and to obey His institutions. Certainly, no one in whom the higher sentiments prevail will for a moment regard this imagined change as any improvement on the Creator's arrangements. What a host of motives to moral and religious conduct would at once be withdrawn were such a spectacle of Divine government to be exhibited to the world !

3dly. It may be supposed that human happiness would have been more completely secured by endowing all men at birth with that degree of development of the moral and intellectual faculties which would have best fitted them for discovering and obeying the Creator's laws, and by preventing all aberrations from this standard ; just as the lower animals appear to have received instincts and capacities adjusted with perfect wisdom to their conditions. Two remarks occur on this supposition :—

First, We are not competent at present to judge correctly how far the development actually bestowed on the human race is, or is not, wisely adapted to their circumstances ; for

possibly there are, in the great system of human society, departments exactly suited to all existing mental conditions, not imperfect through disease, though our present knowledge may be insufficient for their discovery. The want of a natural index to the mental dispositions and capacities of individuals, and of a true theory of the constitution of society, may have hitherto precluded philosophers from arriving at sound conclusions on this question. It appears to me probable that, while there is great room for improvement in the talents and dispositions of vast numbers of individuals, the imperfections of the race may not be so great as we, in our present state of ignorance of the aptitudes of particular persons for particular situations, are prone to believe.

But *secondly*, On the principle that activity of the faculties is the fountain of enjoyment, it may be questioned whether additional motives to the exercise of the whole faculties in harmony with the moral and intellectual powers, and consequently greater happiness, are not conferred by leaving men (within certain limits) to regulate the talents and tendencies of their descendants than by endowing each individual with the best qualities, independently of the conduct of his parents.

On the whole, there seems reason to conclude that the actual institution by which both good and bad qualities* are transmitted is fraught with higher advantages to the race than the abrogation of the law of transmission altogether, or than the supposed change of it, by which bad men should transmit good qualities to their children. The actual law, when tested by the moral sentiments and the intellect, appears, both in its principles and in its consequences, beneficial and expedient. When an individual sufferer, therefore, complains of its operation, he regards it through the medium of his lower faculties alone ; his self-love is annoyed, and he carries his thoughts no further. He does not stretch his mind forward to the consequences

* In using the popular expressions "good qualities" and "bad qualities," I do not mean to insinuate that any of the tendencies bestowed on Man are essentially bad in themselves. Destructiveness and acquisitiveness, for example, are essential to human welfare in this world, and, when properly directed, produce effects unquestionably good ; but they become the sources of evil when they are ill directed, which may happen either from moral deficiency or from intellectual ignorance.

which would ensue to mankind if the law which grieves him were reversed. The animal faculties, when acting by themselves, regard nothing beyond their own immediate interest, and do not discern even *that* correctly ; for no arrangement that is beneficial for the race would be found injurious to individuals if its influence in regard to them were distinctly traced. The abrogation, therefore, of the rule under which they complain would, we may presume, bring greater evils, even upon themselves, than its continuance.

On the other hand, an individual sufferer under hereditary pain, in whom the moral and intellectual faculties predominate, and who believes in the principle and consequences of the institution of hereditary descent as now explained, will not murmur at them as unjust. He will bow with submission to a law which he perceives to be fraught with blessings to the race when it is known and obeyed ; and the very practice of this reverential acquiescence will diminish, in a great degree, the severity of his misfortune. Besides, he will see the door of mercy standing widely open, and inviting his return : every step which he makes in his own person towards exact obedience will remove by so much the organic evil transmitted through his parents' transgression ; and his posterity will reap the full benefit of his more dutiful observance.

It may be objected to the law of hereditary transmission of organic qualities that the children of a blind and lame father have frequently sound eyes and limbs. But, in the *first* place, these defects are generally the result of accident or disease, occurring either during pregnancy or posterior to birth ; so that, the normal elements of the defective organs being present in the constitution, the imperfections are not transmitted to the progeny. And *secondly*, Where the defects are congenital or constitutional, it frequently happens that they are transmitted through successive generations. This is sometimes exemplified in blindness, and even in the possession of supernumerary fingers or toes. One reason why such peculiarities are not transmitted to all the offspring probably is, that, in general, only one parent is defective. If when the father, for instance, is blind or deaf, the mother is free from that imperfection, her influence may extend to, and modify the result in, those of her progeny who take their constitutions chiefly from her.

If the mental qualities transmitted to offspring be to some

extent dependent on the faculties most powerful in the parents, this will account for the varieties, along with the general resemblance, that occur in children of the same marriage. It will throw some light also on the circumstance that genius is sometimes transmitted, and sometimes not. Unless *both* parents have the mental development and the temperament of genius, the organic law may not transmit these qualities to the children; and even although both did possess such endowments, they would be transmitted only on condition of the parents obeying that law. It forbids the excessive exertion of the mental and corporeal functions, which exhausts and debilitates the system—an error almost universally committed by persons endowed with high original talent, under the present condition of ignorance of the natural laws, and the erroneous fashions and institutions of society. The supposed law would be disproved by cases of weak, imbecile, and vicious children, born of parents whose own stocks, constitutions, and habits had been in the highest accordance with the organic, moral, and intellectual laws; but no such cases have hitherto come under my observation.

As rules are best taught by examples, I shall now mention some facts that have fallen under my own notice, or have been communicated to me from authentic sources, illustrative of the practical consequences of infringing the law of hereditary descent.

A man, aged about fifty, possessed a brain in which the animal, moral, and intellectual faculties were all strong, but the reflecting were weak. He was pious, but destitute of education; he married an unhealthy young woman, deficient in moral development, but of considerable force of character; and several children were born. The father and mother were far from being happy; and when the children attained to eighteen or twenty years of age, they became adepts in every species of immorality and profligacy; they picked their father's pocket, stole his goods, and had them sold back to him by accomplices for money, which was spent in betting, cock-fighting, drinking, and low debauchery. The father was greatly grieved; but knowing only two resources, he beat the children severely as long as he was able, and prayed for them; his own words were, that "if, *after that*, it pleased the Lord to make vessels of wrath of them, the Lord's will must just be done."

I mention this last observation, not in jest, but in great

seriousness. It was impossible not to pity the unhappy father ; yet, who that sees the institutions of the Creator to be in themselves wise, and in this instance to have been directly violated, will not acknowledge that the bitter pangs of the poor old man were the consequences of his own ignorance, and that it was an erroneous view of the Divine administration that led him to overlook his own mistakes, and to attribute to the Almighty the purpose of making vessels of wrath of his children, as the only explanation which he could give of their wicked dispositions ? Who that sees the cause of his misery can fail to lament that his piety was not enlightened by knowledge, and directed to observance, in the first instance, of the organic laws of the Creator, as one of the prescribed conditions without performing which he had no title to expect a blessing on his offspring ?

In another instance, a man in whom the animal propensities, particularly those of combativeness and destructiveness, were strong, but who had a pretty fair moral and intellectual development, married, against her inclination, a young woman fashionably and showily educated, but with a very decided deficiency of conscientiousness. They soon became unhappy, and even blows were said to have passed between them, although they belonged to the middle rank of life. The mother induced the children to deceive and plunder the father, and latterly spent the pilfered sums in purchasing ardent spirits. The sons inherited the deficient morality of the mother, combined with the ill temper of the father : and before they had attained majority they retaliated so recklessly the blows with which he had visited them in their earlier years that his death might at any moment have ensued. The family fireside became a theatre of war, and the father was glad to have them removed from his house, as the only means by which he could feel even his life in safety from their violence.

On the other hand, I am not acquainted with a single instance in which the moral and intellectual faculties predominated in the stocks from which both the father and the mother were descended, and also in themselves, and where the external circumstances of the pair allowed the general activity of these powers—in which all the children did not partake of a moral and intellectual character, differing slightly indeed in degrees of excellence, but presenting in every child the predominance of the human over the animal faculties.

Another law of the animal kingdom deserves attention : namely, that by which marriages between blood relations tend to the deterioration of the physical and mental qualities of the offspring. In Spain, kings marry their nieces, and in this country first and second cousins marry without scruple ; although every physiologist declares that this is in opposition to the institutions of Nature.

This law holds also in the vegetable kingdom. "A provision of a very simple kind is, in some cases, made to prevent the male and the female blossoms of the same plant from breeding together, this being found to hurt the breed of vegetables, just as "breeding in and in" does the breed of animals. It is contrived that the dust shall be shed by the male blossom before the female is ready to be affected by it, so that the impregnation must be performed by the dust of some other plant, and in this way the breed shall be crossed."*

If two near relations, in robust health and possessing very favourably developed brains, unite in marriage, their offspring may not be deteriorated *so much* below the common standard of the country as to attract particular attention, and in such cases the law of Nature is supposed not to hold good ; but it does operate, for to a law of Nature there is no exception. The offspring are doubtless inferior to what they *would have been* if the same parents had united with strangers in blood, of *equal vigour and cerebral development*. Whenever there is any remarkable deficiency in parents who are related in blood, these appear in marked and aggravated forms in the offspring. This fact is so well known, and so easily ascertained, that I forbear to enlarge upon it.

So much for the miseries arising from neglect of the organic laws in forming the *domestic compact*. I now proceed to advert to those which arise from overlooking the operation of the same laws in the ordinary relations of general society.

How many little annoyances arise from the misconduct of servants and dependants in various departments of life ! How many losses, and sometimes ruin, arise from dishonesty and knavery in confidential clerks, partners, and agents ! It is said that depredations are constantly committed in the post-offices of the United Kingdom, though every effort is made to select persons of the best character, and the strictest vigilance is exercised over their conduct.

* "Objects, Advantages, and Pleasures of Science," p. 33.

CHAPTER X.

DEATH AND NATURAL LAW.

HAVING now adverted to calamities occasioned by external violence—to bad health—to unhappiness in the domestic circle, arising from ill-advised unions, and viciously-disposed children—and to the evils suffered from placing persons, as servants, clerks, partners, or public instructors, in situations for which they are not suited by their natural qualities—and having traced all those evils to infringement or neglect of the physical and organic laws, I proceed to consider the last, and what is reckoned the greatest, of all calamities—DEATH.

In the introductory chapter, a brief account was given of the changes which occurred on the globe before Man was introduced to inhabit it. The facts there referred to show that death, or destruction of vegetable and animal life, was an institution of Nature before Man existed; and by those who are acquainted with them they are now universally accepted as conclusive.*

Physiologists in general regard the organic frame of Man, also, as containing within itself the seeds of dissolution. "The last character by which the living body is distinguished," says a popular author, "is that of terminating its existence by the process of death. The vital energies by which the circle of actions and re-actions necessary to life is sustained at length decline, and finally become exhausted. Inorganic bodies preserve their existence unalterably and for ever, unless some mechanical force or some chemical agent separate their particles or alter their composition. But in every living body its vital motions inevitably cease, sooner or later, from the operation of causes that are internal and inherent. Thus, to terminate its existence by death is as distinctive of a living being as to derive its origin from a pre-existing germ."†

It is beyond the compass of science to explain *why* the world was constituted in the manner here represented. I therefore make no inquiry *why* death was instituted; and I refer, of course, only to the dissolution of organised bodies.

* See, for instance, Hugh Miller's "Testimony of the Rocks."

† "Library of Useful Knowledge": *Animal Physiology*, p. 7.

Let us first view the dissolution of the body, abstractedly from personal considerations, as a mere natural arrangement. Death appears to be a result of the constitution of all organised beings ; for the very definition of the genus is that the individuals grow, attain maturity, decay, and die. The human imagination cannot conceive how the former part of this series of movements could permanently exist without the latter, as long as space is necessary to corporeal existence, and is limited. If all the vegetable and animal productions of nature, from the creation downwards, had grown, attained maturity, and there remained, the world would not have been capable of containing the thousandth part of them. On this earth, therefore, decaying and dying appear necessary to admit of reproduction and growth. Theologians adduce the translation of living human beings to some other portion of space as an alternative which would have admitted of a constant succession of young ; but science contains no evidence of such an institution, and no data to enable us to judge of its effects. It therefore lies beyond the scope of the present treatise.

Viewed abstractedly, then, organised beings live as long as health and vigour continue, but they are subjected to a process of decay which gradually impairs all their functions, and at last terminates their corporeal existence. In the vegetable world, the effect of this law is to surround us with young trees, instead of everlasting stately full-grown forests, standing forth in awful majesty, without variation in leaf or bough—to delight us with the vernal bloom of spring, gracefully giving place to the vigour of summer and the maturity of autumn—to present for our admiration the rose, first simply and delicately budding, then luxuriant and lovely in its perfect evolution. In short, when we advert to the law of death, as instituted in the vegetable kingdom, and as related to our own faculties of ideality and wonder, which desire the beautiful and the new, and delight in the very changes which death introduces, we without hesitation exclaim that all is wisely and wonderfully made. Turning again to the animal kingdom, we discover that the same fundamental principle prevails. Death removes the old and decayed, and the organic law introduces in their place the young, the gay, and the vigorous to tread the stage of life with fresh agility and delight.

This succession in existence may readily be granted to be beneficial to the young, but at first sight it appears the

opposite of benevolent to the old. To have lived at all is felt as giving a right to continue to live ; and the question arises, How can the institution of death, as the result of the organic law, be reconciled with benevolence and justice ?

I am aware that, theologically, death is regarded as the punishment of sin, and that the attempt to reconcile our minds to it by reason is objected to as at once futile and dangerous. But I beg leave to observe that death prevails among the lower animals, not only by natural decay and the operation of physical forces, but by the express institution of carnivorous creatures destined to prey on living beings ; that Man himself is omnivorous, and obviously framed by the Creator for a scene of death ; that the inherent qualities of his organic constitution imply death as its termination ; and if these facts be admitted on the one hand, and we are prohibited on the other from attempting to discover, from the records of creation itself, the wise adaptation of the human feelings and intellect to this state of things, neither the cause of religion nor that of reason can be benefited. Facts cannot be refuted or concealed ; and the only effect of excluding the investigation on which I propose to enter would be to close the path of reason, and to leave the constitution of the external world and that of the human mind apparently in a state of contradiction to each other.

In treating of the moral sentiments, I pointed out that the grand distinction between them and the propensities consists in this—that the former are in their nature disinterested, generous, and fond of the general good, while the latter aim only at the welfare or gratification of the individual. It is obvious, then, that death, as an institution of the Creator, must affect these two classes of faculties in a different manner. A being endowed only with propensities and intellect, and enabled, by the latter, to discover death and its consequences, would probably regard it as an appalling visitation. He would see in it the utter extinction of enjoyment to himself ; and although he perceived existence conferred on other beings, who would enjoy life after his removal from the scene, this would afford him no consolation, because he is supposed to be destitute of all the faculties which derive pleasure from disinterestedly contemplating the enjoyments of other creatures.

The lower animals, then, whose whole being is composed of the inferior propensities and several *knowing* faculties,

would probably see death in this light, if they could have any notion of it at all. It would appear to them as the extinguisher of every pleasure which they had ever felt ; and the bare prospect of it might render their lives unhappy. But by depriving them of *reflective* faculties, the Creator has kindly and effectually withdrawn them from this evil. There is not the least reason to believe that any one of the lower animals, while in health and vigour, has the slightest conception that it is a mortal creature. It lives in as full enjoyment of the present as if it were assured of every agreeable sensation being eternal. Death takes the individual by surprise, whether it comes in the form of violence, suppressing life in youth, or of slow decay in age ; and it really operates as the removal of one living being to make room for another, without knowledge of the loss in the one which dies.

Let us, however, trace the operation of death in regard to the lower animals a little more in detail.

Science, as already remarked, cannot explain why death was instituted at first ; but, according to the views maintained in this work, we should expect to find it connected with, and regulated by, benevolence and justice : that is to say, that it should not be inflicted for the sole purpose of extinguishing the life of individuals, to their damage, without any other result—but that the general system under which it takes place should be, on the whole, favourable to the enjoyment, not only of the race, but of each individual animal while life continues.

And this accordingly is the fact. Violent death and the devouring of one animal by another are not purely benevolent, because pure benevolence would never inflict pain, but they are instances of destruction leading to beneficial results : that is, wherever death is introduced under the institutions of Nature, it has been preceded by enjoyment arising out of it to the very animals which are to become the subjects of it. The world is calculated to support only a limited number of living creatures ; nevertheless, the lower animals have received from Nature powers of reproduction far beyond what are necessary to supply the waste of mere natural decay. Further, they do not possess intellect sufficient to induce them to restrain their numbers within the limits of their means of subsistence. But Nature accomplishes this end by other means.

There is reason to believe that in the state of Nature

death is attended with little suffering to the brutes. In natural decay the organs are worn out by mere age, and the animal sinks into gradual insensibility, unconscious that dissolution awaits it. Further, the wolf, the tiger, the lion, and other beasts of prey, instituted by the Creator as instruments of violent death, are provided, in addition to destructiveness, with cautiousness and secretiveness, which prompt them to steal upon their victims with the suddenness of a mandate of annihilation ; and they seem to be also impelled to inflict death in the quickest and least painful method.

The tiger and the lion spring from their covers with the rapidity of the thunderbolt, and one blow of their tremendous paws, inflicted at the junction of the head with the neck, produces instant death. The eagle strikes its sharp beak into the spine of the birds which it devours, and their agony endures scarcely for an instant.

It has been objected that the cat plays with the unhappy mouse and prolongs its tortures ; but the cat that does so is the pampered and well-fed inhabitant of a kitchen. The cat of Nature is too eager to devour to indulge in such luxurious gratifications of destructiveness and secretiveness. It kills in a moment, and eats.

Here, then, is a regularly organised process for withdrawing individuals among the lower animals from existence, almost by a fiat of destruction, which permits the comfortable subsistence of the creatures while they live, and makes way for a succession of new occupants.*

We perceive nothing malevolent in the institution of death in so far as regards the lower animals. A pang certainly does attend it, but benevolence is equally perceptible in the general results of the system of which it forms a part.

No remedial process is instituted by Nature to repair injuries sustained by purely physical objects. If a mirror fall and be smashed, it continues ever after in fragments ; if a ship sink, it remains at the bottom of the ocean. Under

* Mr. H. C. Watson disputes the views stated in the text, and maintains that "innumerable creatures, after being crushed, lacerated, or otherwise injured by stronger animals, are left to a lingering death by starvation, or other slowly completed consequences of the injuries which they have received. . . . The butcher-bird impales living insects upon thorns, and leaves them to die."—*Phren. Jour.*, Vol. XIII., p. 364. The reader must decide which of these views best accords with the general system of Nature.

the organic law, on the other hand, a distinct remedial process is established. If a tree be blown down, every root that remains in the ground will put forth increased activity to preserve its life ; if a branch be lopped off, new branches will shoot out in its place ; if a leg in an animal be broken, the bone will re-unite ; if a muscle be severed, it will grow together ; if an artery be obliterated, the neighbouring arteries will enlarge their dimensions and perform its duty.

The Creator, however, not to encourage animals to abuse this benevolent institution, has established pain as an attendant on infringement of the organic law, and has made them suffer from the violation of it, even while He restores them to health. It is under this law that death has received its pangs. Instant death is not attended with pain of any perceptible duration ; and it is only when a lingering death occurs in youth and middle age that the suffering is severe. Dissolution, however, does not occur at these periods *as a direct and intentional result of the organic laws*, but as the consequence of infringement of them. Under the fair and legitimate operation of these laws, the individual whose constitution was at first sound, and whose life has been in accordance with their dictates, will live till old age fairly wears out his organism, and then the pang of expiration is little perceptible.*

* The following table is copied from an interesting article, by Mr. William Fraser, on "The History and Constitution of Benefit or Friendly Societies," published in the "Edinburgh New Philosophical Journal" for October, 1827, and is deduced from Returns by Friendly Societies in Scotland for various years, from 1750 to 1821. It shows how much sickness increases with age, and how little there is of it in youth, even in the present disordered state of human conduct. We may expect the quantity to decrease, at all ages, in proportion to the increase of obedience to the organic laws. It is chiefly in advanced life, when the constitution has lost a portion of its vigour, that the accumulated effects of disobedience become apparent.

Average Annual Sickness of each Individual.

| Age. | Weeks and Decimals. | Weeks. | Days. | Hours. | Proportion of Sick Members. |
|----------|------------------------|--------|-------|--------|--------------------------------|
| Under 20 | 0.3797 | 0 | 2 | 16 | 1 in 136.95 |
| 20-30 | 0.5916 | 0 | 4 | 3 | 1 „ 87.89 |
| 30-40 | 0.6865 | 0 | 4 | 19 | 1 „ 75.74 |
| 40-50 | 1.0273 | 1 | 0 | 4 | 1 „ 50.61 |
| 50-60 | 1.8806 | 1 | 6 | 3 | 1 „ 27.65 |
| 60-70 | 5.6337 | 5 | 4 | 10 | 1 „ 9.23 |
| Above 70 | 16.5417 | 16 | 3 | 19 | 1 „ 3.14 |

Statistics collected from a larger field have more recently been

This view of our constitution is objected to by some, because disease appears to them to invade our bodies, and after a time either to end in death or to disappear without any organic cause being discoverable. On this subject I would observe that there is a vast difference between the uncertain and the unascertained. It is now generally admitted that all the movements of matter are regulated by laws, and that the motions are never uncertain, although the laws in virtue of which they occur may, in some instances, be unascertained. The revolutions of the planets, for example, are fully understood, while those of some of the comets are as yet unknown; but no philosopher imagines that the latter are uncertain. The minutest drop of water that descends the mighty Fall of Niagara is regulated in all its movements by definite laws—whether it rise in mist, and float in the atmosphere to distant regions, there to descend as rain, or be absorbed by a neighbouring shrub, and re-appear as an atom in a blossom adorning the Canadian shore; or be drunk up by a living creature, and sent into the wonderful circuit of its blood; or become a portion of an oak, which, at a future time, shall career over the ocean as a ship. Nothing can be less ascertained, or probably less ascertainable by mortal study, than the motions of such an atom; but every philosopher will, without a moment's hesitation, concede that not one of them is uncertain.* A philosophic

published by Mr. Neison. They are referred to in "M'Culloch's Descriptive and Statistical Account of the British Empire," 3rd edition, Vol. II., pp. 581-2, where the following table is given:—

Comparative View of the Sick Time in Mr. Neison's and other Returns.

| AVERAGE NUMBER CONSTANTLY SICK TO 100 LIVING AT EACH AGE. | | | | | |
|---|----------------------------------|----------------------|------------------------|-----------------------|---------------------------------|
| Ages. | FRIENDLY SOCIETIES. | | | | East India Company's Labourers. |
| | Scotland. (Highland Society.) | England (Ansell.) | Scotland. (Neison.) | England. (Neison.) | |
| 20—30 | 1.14 | 1.54 | 1.65 | 1.69 | 1.62 |
| 30—40 | 1.32 | 1.83 | 1.66 | 1.91 | 2.06 |
| 40—50 | 1.97 | 2.56 | 2.44 | 2.89 | 2.69 |
| 50—60 | 3.60 | 4.32 | 5.17 | 5.21 | 6.58 |

* I owe this forcible illustration to Dr. Chalmers, having heard it in one of his lectures.

understanding will extend the same conviction to the phenomena in every department of nature. In many instances our knowledge may be so imperfect that we are incapable of pointing out the chain of connection between a disease and its organic cause ; but he is no philosopher who doubts the *reality* of the connection.

One reason of the obscurity that prevails on this subject in the minds of persons not medically educated is ignorance of the structure and functions of the body ; and another is that diseases appear under two very distinct forms—structural and functional—only the first of which is understood, by common observers, to constitute a proper organic malady. If an arrow is shot into the eye, derangement of the structure is evident, and the most determined opponent of the natural laws will at once admit the connection between the blindness which ensues and the lesion of the organ. But if a watchmaker or an optical instrument maker, by long-continued and excessive exertion of the eye, becomes blind, the disease is called functional ; the function, from its organ being overwrought, cannot be successfully executed, but frequently no alteration of structure can be perceived. The philosophic physiologist, however, doubts not that there *is* a change of structure corresponding to the functional derangement, although human observation cannot detect it. He never says that it is nonsense to assert that the patient has become blind in consequence of infringement of the organic laws. It is one of these laws that the eyes shall be exercised moderately, and it is a breach of that law to strain them to excess.

The same principle applies to a large number of diseases occurring under the organic laws. Imperfections in the tone, structure, or proportions of certain organs may exist at birth, so hidden by their situation, or so slight, as not to be readily perceptible, but which are not on that account the less real and important ; or deviations may be made gradually and imperceptibly from the proper exercise of the functions ; and from one or other cause disease may invade the constitution.

Religious persons term disease arising from such hidden causes dispensations of God's providence ; the careless name them unaccountable events ; but the enlightened physician views them as the results of imperfect or excessive action of the organs, and proceeds on the conviction that they have been caused by deviations from the laws which

regulate the animal economy. The objection that the doctrine of the organic laws is unsound because diseases come and go without uneducated persons being able to trace their causes, has not a shadow of reason to support it. I may err in my exposition of these laws, but I hope that I do not err in stating that neither disease nor death, in early and middle life, can take place under the ordinary administration of Providence, except when the organic laws have been infringed.

The pains of premature death, then, are the pre-ordained consequences of infringement of these laws ; and the object of submitting us to them probably is to inculcate on us the necessity of obeying the laws that we may live, and to prevent our abusing that capacity of remedial action which is inherent to a certain extent in our constitution.

Let us now view death as an institution appointed to Man. If the constitution of Man, when sound in its elements, and preserved in accordance with the organic laws, is calculated to endure in health from infancy to old age, and if death, when it occurs during the early or middle periods of life, is the consequence of departure from these laws, it follows that even in premature death a benevolent principle is discernible. Although the capacity of remedial action allows animals to recover from moderate injuries, yet the very nature of the organic laws must place a limit to it. If after the brain had been blown to atoms by a bombshell, life could be preserved, and health be restored as effectually as a broken leg and a cut finger can be healed, this would be an abrogation of the organic laws, and of all the curbs which they impose on the lower propensities ; every incident which they afford to the activity of the higher sentiments and the intellect would be lost. The extent of the remedial capacity of Nature, however, in youth and middle life is much greater than is generally believed. The inherent tendency of the organism at these ages is towards restoration.

There is then a persistency in the processes of life which is truly wonderful ; so great, indeed, that few patients who enjoy mental fortitude, sound sense, self-control, and the advice of an enlightened physician, need despair. Still there is a limit to it ; and the limit is this—that any disobedience, from the effects of which restoration is permitted, must not be excessive in extent, and must not involve to too great a degree any organ essential to life, such as the

brain, the lungs, the stomach, or the intestines. The maintenance of the law, with all its advantages, requires that restoration from grievous derangements of these organs should not be permitted. When we reflect on the hereditary transmission of qualities to children, we perceive benevolence to the race in the institution which cuts short the life of an individual in whose person disease of essential organs has exceeded the limits of the remedial process ; it prevents the extension of the injurious consequences of his errors over an innumerable posterity.

In premature death, then, we see two objects accomplished. *First*, the individual sufferer is withdrawn from agonies which could serve no beneficial end to himself, for, the limits of recovery having been transgressed, continued life would be protracted misery ; and, *secondly*, the race is guaranteed against the transmission of his disease to posterity.

The disciple of Mr. Owen formerly alluded to,* who had grievously transgressed the organic law, and suffered consequent pain, observed : "Philosophers have urged the institution of death as an argument against Divine goodness ; but not one of them could have experienced for five minutes the pain which I now endure without looking on it as a merciful dispensation. I have departed from the natural laws and suffered the punishment ; and I see in death only the Creator's benevolent hand stretched out to terminate my agonies when they cease to serve any beneficial end." On this principle, the death of a feeble and sickly child is an event of mercy to it. It withdraws a being in whose person the organic laws have been violated from useless suffering, and also from the possibility of transmitting its imperfections to others.

Pain and disease, then, as appointed consequences of transgressing the organic laws, are founded in benevolence and wisdom ; and if death, in the early and middle periods of life, is an arrangement for withdrawing the transgressor from further suffering when return to obedience is impossible, and for protecting the race from the consequences of his errors, it also is a wise and benevolent institution.

This leaves only *death in old age* as a natural, and, to Man, an unavoidable institution of the Creator. It will not be denied that if old persons, when their powers of

* See page 96.

enjoyment are exhausted and their cup of pleasure is full, could be removed from this world, as we have supposed the lower animals to be, in an instant, and without pain or consciousness, to make way for a fresh and vigorous offspring, fitted to run the career which the old have terminated, there would be in the arrangement no lack of benevolence to the race. At present, while we live in ignorance and habitual neglect of the organic laws, death probably comes upon us with more pain and suffering, even in advanced life, than would be its legitimate accompaniment if we placed ourselves in accordance with them ; so that we are not now in a condition to ascertain the *natural* amount of pain necessarily attendant on death. Judging from such facts as have been observed, we may infer that the close of a long life, founded at first upon, and afterwards spent in accordance with, the Creator's laws, would not be accompanied with great organic suffering, but that an insensible decay would steal upon the frame.

Be this, however, as it may, I observe, in the next place, that, as the Creator has bestowed on Man animal qualities which fear death, and reason which carries home to him the conviction that he must die, it is an interesting inquiry whether He has provided any *natural* means of relief from this combination of terrors. "And what thinkest thou," said Socrates to Aristodemus, "of this continual love of life, this dread of dissolution, which takes possession of us from the moment that we are conscious of existence ?" "I think of it," answered he, "as the means employed by the same great and wise Artist deliberately determined to preserve what He has made." Lord Byron strongly expressed the same opinion, and was struck with the energetic efforts which he instinctively made, in a moment of danger, to preserve his life, although in his hours of calm reflection he felt so unhappy that he wished to die.

I have ascertained from numerous confidential communications, as well as by observation, that even when external circumstances are equally prosperous, there are great differences in the desire of life in different minds. Some persons have assured me that death, viewed even as the extinction of being, and without reference to a future state, did not appear to them in the least appalling, or calculated, when contemplated as their certain fate, to impair the enjoyment of life ; and these were not profligate men, whose vices might make them desire annihilation

as preferable to future punishment, but persons of pure lives and pious dispositions.

These ideas, however, are thrown out only as probabilities, suggested by the facts before described. Whatever degree of truth they may have, it is certain that the Creator has bestowed moral sentiments on Man, and arranged the theatre of his existence on the principle of their supremacy ; and these, when duly cultivated and enlightened, are calculated to save him from the moral terrors of death.

Let us inquire, then, how the moral sentiments are affected by death in old age as a natural institution.

The true view of death, as a natural institution, is that it is an essential part of the system of organisation ; that birth, growth, and arrival at maturity as completely imply decay and death in old age as morning and noon imply evening and night, as spring and summer imply harvest, or as the source of a river implies its termination. Besides, organised beings are constituted by the Creator to be the food of other organised beings, so that some must die that others may live.

Man, for instance, cannot live on stones, on earth, or on water, which are not organised, but must feed on vegetable and animal substances ; so that death is as much and as essentially an inherent attribute of organisation as life itself. If the same animals and men had been destined for a permanent occupation of the earth, we may presume, from analogy, that God—instead of creating a primitive pair of each, and endowing them with extensive powers of reproduction, with a view to their ushering young beings into existence—would have furnished the world with a definite complement of living creatures, perfect at first in all their parts and functions, and that these would have remained without diminution and without increase.

To prevent, however, all chance of being misapprehended, I repeat that I do not at all refer to the state of the soul or mind after death, but merely to the dissolution of organised bodies : that, according to the soundest view which I am able to obtain of the natural law, pain and death during youth and middle age, in the human species, are consequences of departure from the Creator's law, while death in old age, by insensible decay, is an essential part of the system of organic existence as now constituted : that this arrangement admits of a succession of individuals, substituting

the young and vigorous for the feeble and decayed : that it is directly the means by which organised beings live, and indirectly makes way for the gratification of amativeness, philoprogenitiveness, and a variety of other faculties : that it admits of the race ascending in the scale of improvement, both in their organic and in their mental qualities : and finally, that the moral sentiments, [when supreme in activity and enlightened by intellect, which perceives the design and consequences of the arrangement, are calculated to place Man in harmony with it ; while religion disciplines all the faculties to cheerful submission to the will of God, and completes what reason leaves undone.

If the views now unfolded be correct, death in old age will never be abolished as long as Man continues an organised being ; but pain and the frequency of premature death will decrease in the exact ratio of his obedience to the physical and organic laws. It is interesting to observe that there is already some evidence of this process being begun. About the middle of last century, tables of the average duration of life in England were compiled for the use of the life insurance companies ; and from them it appears to have been then 28 years—that is, 1,000 persons being born, and the years of their respective lives being added together, and divided by 1,000, the result was 28 to each. By recent tables it appears that the average is now greatly higher.*

* See Appendix I.

CHAPTER XI.

THE MORAL LAW IN SOCIAL AFFAIRS.

WE now proceed to consider the Moral Law, which is proclaimed by the whole faculties acting harmoniously ; or, in cases of conflict, by the higher sentiments and the intellect acting harmoniously, and holding the animal faculties in subjection.

In surveying the moral and religious codes of different nations, and the moral and religious opinions of different philosophers, every reflecting mind must have been struck with their diversity. As Nature contains objects related to all the faculties, each individual may find facts and circumstances in harmony with his own combination of faculties ; and, by omitting all discrepant truths, he may present a plausible array of authorities from Nature for his peculiar opinions. Hence, the particular views of Nature, and the particular code of morality and religion, *which are most in harmony with the whole faculties of the individual*, will appear to him to be the best, *while he refers only to the dictates of his own mind as the standard of right and wrong.*

But if we show that when several faculties conflict, the *scheme of external creation is arranged in harmony with certain faculties in preference to others*, so that enjoyment flows in upon the individual when his conduct is in conformity with some, and that evil overtakes him when he resigns himself to others, we shall prove that the suggestions of the former class of faculties are the morality and religion established by the Creator, and that individual men who support codes differing from His must necessarily be deluded by imperfections in their own minds. That constitution of mind, also, may be pronounced to be the best which harmonises most completely with the morality and religion established by the Creator. In this view *morality becomes a science*, and departures from its dictates may be shown to be practical follies, injurious to the interest and happiness of the individual.

Dugald Stewart has justly remarked that "the importance of agriculture and of religious toleration to the prosperity of States, the criminal impolicy of thwarting the

kind arrangements of Providence by restraints upon commerce, and the duty of legislators *to study the laws of the moral world as the ground-work and standard of their own*, appear, to minds unsophisticated by inveterate prejudices, as approaching nearly to the class of axioms ; yet, how much ingenious and refined discussion has been employed, even in our own times, to combat the prejudices which everywhere continue to struggle against them ; and how remote does the period yet seem when there is any probability that these prejudices shall be completely abandoned ! ” *

The great cause of the long continuance of these prejudices is the want of an intelligible and practical philosophy of morals. Before ordinary minds can perceive that the world is really governed by Divine laws they must become acquainted with the nature of Man, physical, animal, moral, and intellectual, with the relations of the different parts of that nature to each other, and with the relationship of the whole to God and external objects. The present treatise is an attempt (a very feeble and imperfect one indeed) to arrive at a demonstration of morality as a science. The interests dealt with in the investigation are so elevating, and the effort itself is so delightful, that the attempt carries its own reward, however unsuccessful in its results.

Assuming, then, that in cases of conflict among the faculties of the mind the higher sentiments and the intellect hold the natural supremacy, I shall endeavour to show that obedience to the dictates of these powers is rewarded with pleasing emotions in the mental faculties themselves, and with the most beneficial external consequences ; whereas disobedience is followed by deprivation of these emotions, by painful feelings within the mind, and by much external evil.

1. Obedience is accompanied by pleasing emotions in the faculties. It is scarcely necessary to dwell on the fact that every propensity, sentiment, and intellectual faculty, when gratified in harmony with all the rest, is a fountain of pleasure. How many exquisite thrills of joy arise from the moral faculties when gratified in accordance with the moral sentiments ! Who that has ever poured forth the aspirations of hope, ideality, wonder, and veneration,

* “Prelim. Dissert. to Ency. Brit.,” p. 93, 8th Ed.

directed to an object in whom intellect and conscientiousness also rejoiced, has not experienced the deep delight of such an exercise? And who is a stranger to the grateful pleasures attending an active benevolence? Directing our attention to the intellect, what pleasures do we find to be afforded by the scenery of Nature, by painting, poetry, and music, to those who possess the combination of faculties suited to these objects! And how rich a feast does philosophy yield to those who possess, in a high degree, the reflecting faculties, combined with concentrativeness and conscientiousness! These exquisite rewards are attached by the Creator to the active exercise of our faculties in accordance with the moral law; and one punishment, clear, obvious, and undeniable, inflicted on those who neglect or infringe that law, is *deprivation* of these pleasures.

This is a consideration very little attended to; because men, in general, possess such an imperfect knowledge of the natural moral law that they have only a very slender experience of its rewards, and do not know the enjoyments they are deprived of by its infringement. Before its full measure can be judged of, the mind must be instructed in its own constitution, in that of external objects, and in the relationship established between it and them, and between it and the Creator. Until a tolerably distinct perception of the truths brought to light by a knowledge of these relationships be obtained, the faculties cannot enjoy repose nor can they act in full vigour and harmony.

While, for example, our forefathers regarded the marsh-fevers to which they were subject in consequence of deficient drainage of their fields, and the outrages on person and property attendant on the wars waged by the English against the Scots, or by one feudal lord against another on their own soil, not as the pre-ordained consequences of particular infringements of the organic and moral laws, to be removed by obedience to these laws, but as inscrutable dispensations of God's providence, which it was impossible for them to avert, and which it behoved them, therefore, meekly to endure—the full enjoyment that the moral and intellectual faculties were fairly calculated to afford could not be experienced. Benevolence would be pained by the sufferings of the victims; veneration would regard God with doubts as to His goodness; and conscientiousness would suggest endless surmises of disorder and injustice in a scheme of creation under which such evils occurred.

and were left without a remedy—in short, the full tide of moral, religious, and intellectual enjoyment could not freely flow until views more in accordance with the constitution and desires of the moral faculties were obtained.

The same evil still afflicts mankind to a great extent. How is it possible for the Hindu, the Mussulman, the Chinese, and the savage American, while they continue to worship deities whose qualities outrage benevolence, veneration, and conscientiousness, and while they remain in profound ignorance of almost all the Creator's natural institutions, in consequence of infringing which they suffer evils without number—how is it possible for such men to form even a conception of the gratifications which the moral and intellectual nature of Man is capable of enjoying when he is enlightened concerning the Creator's true character, and when it is exercised in harmony with the Divine institutions? This operation of the moral law is not the less real because many persons do not recognise it. Sight is not a less excellent gift to those who see because some men born blind have no conception of the extent of pleasure and of the advantage from which the want of it cuts them off.

The attributes of the Creator may be inferred from His works ; but it is obvious that to arrive at the soundest views we must know His institutions thoroughly. To a grossly ignorant people, who suffer hourly from transgression of His laws, the character of the Deity will seem more mysterious and severe than to enlightened men who trace the principles of His government, and who, by observing His laws, avoid the penalties of infringing them. His attributes will appear to human apprehension more and more perfect and exalted in proportion as His works shall be understood. The low and miserable conceptions of God formed by the vulgar among the Greeks and the Romans were the reflections of their own ignorance of natural, moral, and political science.

Some persons, in their great concernment about a future life, are prone to overlook the practical direction of the mind in the present. When we consider the nature and the objects of the mental faculties, we perceive that a great number of them have the most obvious and undeniable reference to this life. We possess also benevolence, and moral and mental faculties, which, while they find scope for gratification in this world, may be adapted also to a higher sphere of existence. But the important consideration is that here on earth these two sets of faculties are combined ;

and, on the same principle that led Sir Isaac Newton to infer the combustibility of the diamond, I am disposed to expect that the external world, when its constitution and relations shall be sufficiently understood, will be found to be in harmony with all our faculties ; and that of course the character of the Deity, as unfolded by the works of creation, will rise higher and higher in our estimation, and will more and more gratify our moral and intellectual powers, in proportion as knowledge advances. The structure of the eye is admirably adapted to the laws of light, that of the ear to the laws of sound, and that of the muscles to the laws of gravitation ; and it would be strange if our moral and intellectual constitution were not as wisely adapted to the general order of the external world.

The principle is universal, and admits of no exception, that want of power and activity in any faculty is accompanied by deprivation of the pleasures attendant on its vivacious exercise. He who is so deficient in the sense of tune that he cannot distinguish melody, is cut off from a source of gratification enjoyed by those who possess that sense in a state of vigour and high cultivation ; and the same principle holds good in the case of every other organ and faculty. Criminals and profligates of every description, therefore, from the very constitution of their nature, are excluded from the great enjoyments attendant on virtue ; and this is the *first* natural punishment to which they are inevitably liable.

Persons, also, who are ignorant of the constitution of their own minds, and of the relations of them to external objects, not only suffer many direct evils on that account, but, through the consequent inactivity of their faculties, are besides deprived of many exalted enjoyments. The works of creation and the character of the Deity are the legitimate objects of contemplation to our highest powers ; and he who is blind to their qualities loses much of the benefit of his moral and intellectual nature. If there be any one to whom these gratifications are unknown or to whom they appear trivial, either he must, to a considerable degree, be still under the dominion of the animal propensities, or his views of the Creator's character and institutions must be at variance with the natural dictates of the moral sentiments and the intellect.

The custom of teaching children to regard with high admiration the literature and history of the Greeks and

the Romans, stained with outrages condemned by the superior faculties of Man, has probably diverted their minds from the study of the Creator and His works, and has had a pernicious effect on the views subsequently entertained by them of this world and its capabilities. If the achievements of barbarous men engage that attention which might be more profitably bestowed on the glorious works of God, we need not be surprised that no satisfaction to the moral sentiments is experienced while such a course of education is pursued.

2. But, in the *second* place, as, in cases of conflict among the faculties, the world is arranged on the principle of the supremacy of the moral sentiments and the intellect, observance of the moral law is attended with external advantages, and infringement of it with evil consequences ; and from this constitution arises the second natural punishment of immoral conduct.

The Creator has bestowed talents in different degrees on different individuals, and has also limited their powers ; consequently, by confining their attention to one department of labour they execute it better—an arrangement which amounts to a direct institution of separate trades and professions. Under the natural laws, then, the manufacturer may pursue his calling with the approbation of all the moral sentiments, for he is dedicating his talents to supplying the wants of his fellow-men ; and how much more successful will he be if his every proceeding be accompanied by the desire to act benevolently and honestly towards those who are to consume and pay for the products of his labour ! He cannot gratify his acquisitiveness half so successfully by any other method.

The same remark applies to the merchant, the lawyer, and the physician. The lawyer and the physician who consult, as a paramount object, the interests of their clients and their patients, obtain not only the direct reward of gratifying their own moral faculties—which is no slight enjoyment—but also high respect and a well-founded reputation, combined with increasing emolument, not grudgingly paid, but willingly offered by persons who feel the worth of the services bestowed.

Three conditions are required by the moral and intellectual laws, which must all be observed to ensure their rewards. 1st, The department of industry selected must be really useful to human beings—benevolence demands this. 2nd, The

amount of labour bestowed must bear a just proportion to the demand for the commodity produced—intellect requires this; and 3rd, In our social connections we must scrupulously attend to the fact that different individuals possess different natural talents and dispositions—and we must rely on each only to the extent warranted by his natural endowments.

If, then, a man has received at birth a sound organic constitution and a favourably-developed brain, and if he lives in accordance with the physical, the organic, the moral, and the intellectual laws, it appears to me that in the constitution of the world he has received from the Creator an assurance of provision for his animal wants, and of high enjoyment from the legitimate exercise of his various mental powers.

I have already observed that before we can obey the Creator's institutions, we must know them: that the sciences which teach the physical laws are natural philosophy and chemistry, while the organic laws belong to the department of anatomy and physiology: and I now add that it is the business of the Political Economist to unfold the kinds of industry that are really necessary to the welfare of mankind, and the extent of labour that will meet with a just reward. The leading object of political economy is to increase enjoyment by directing the application of industry.

To attain this end, however, it is obviously necessary that the nature of Man, the constitution of the physical world, and the relations between these, should be known. Hitherto, the knowledge of the former of these elementary parts has been deficient; and in consequence, the labours of political economists have been productive of little practical advantage, in comparison with what they may yield when founded on a more perfect basis. The masters in economical science have not taught that the world is arranged in accordance with the harmonious activity of all our faculties—the moral sentiments and intellect, in cases of conflict, holding the supremacy;—that, consequently, to render Man happy, *his leading pursuits must be such as will exercise and gratify all his powers*, and that his life will necessarily be miserable if devoted exclusively to the production of wealth. They have proceeded on the notion that the accumulation of wealth is the *summum bonum*.

But all history testifies that national happiness does not invariably increase in proportion to national riches; and until they shall teach that intelligence and morality are the

foundation of all lasting prosperity, they will not interest the great body of mankind nor give a practical direction to their efforts. Further, in deducing the practical consequences of the infringement of economical laws, they often omit to give due prominence to the mitigating influence of the moral laws. They show, for example, that the Irish peasantry by multiplying their numbers beyond the extent of their capital and of profitable fields of labour, exposed themselves and their offspring to the horrors of destitution.

This fact is undeniably true ; but they omit to add that it was the duty of the enlightened and wealthy members of society to mitigate the severity of that destitution by assisting the sufferers, while they enforced on them stricter obedience in future to the natural law. Indeed, society suffers a double disadvantage from the present severance between moral and economical science. Benevolent men relieve the destitute, but rarely think of removing the causes of destitution ; while the poor, uninstructed regarding the connection between their own conduct and their misery, rely more and more on charitable relief, and seldom endeavour to abandon the course of action which has led to their degradation.

The proposal that men in general should be taught natural philosophy, anatomy, physiology, political economy, and the other sciences that expound the natural laws, has been sneered at as ridiculous. But I would ask, In what occupations are human beings so urgently engaged that *they have no leisure* to bestow on the study of the Creator's laws, from the influence of which they cannot escape ? The delivery of a course of lectures on natural philosophy would occupy sixty or seventy hours, and a course on anatomy and physiology the same.

These, once or twice repeated, would serve to initiate the student in the sciences in question, so that he could afterwards advance in them by the aid of observation and books. Is life, then, so brief, and are our hours so urgently occupied by higher and more important duties, that we cannot afford these pittances of time to learn the laws that regulate our existence ? No. The only difficulty lies in exciting the *desire* for knowledge ; for when that is attained, *time* will not be wanting.

We shall understand the operation of the moral and intellectual laws more completely by attending to the evils which arise from neglect of them.

I. Let us consider the evils that overtake INDIVIDUALS. The almost universal persuasion of civilised men is that happiness consists in the possession of wealth, power, and external splendour: objects related to the animal faculties and the intellect much more than to the moral sentiments. In consequence, each individual starts in pursuit of these as the chief business of his life; and in the ardour of the chase he recognises no limitations to the means which he may employ, except those imposed by the municipal law. He does not perceive or acknowledge the existence of natural laws, determining not only the sources of happiness, but the steps by which it may be attained.

From this moral and intellectual blindness, innumerable merchants and manufacturers hasten to be rich beyond the course of Nature: that is to say, they engage in enterprises far exceeding the extent of their capital and capacity; they place their property in the hands of debtors whose natural talents and morality are so low that they should never have been entrusted with a shilling; they send their goods to sea without insuring them, or leave them uninsured in their warehouses; they ask pecuniary accommodation from other merchants to enable them to carry on imprudent speculations, and they become security for them in return, and both fall into misfortunes; or they live in splendour and extravagance far beyond the limit of the natural return of their capital and talents, and speedily reach ruin as their goal. In every one of these instances the calamity is obviously the consequence of infringement of the moral and intellectual laws.

II. Some of the evils that overtake SOCIETY may next be considered.

The greatest difficulties present themselves in tracing the operation of the moral and intellectual laws in the wide field of social life. A man may be enabled to comprehend how, if he commit an error, he should suffer a particular punishment; but when calamity overtakes whole classes of the community, each person absolves himself from all share of the blame, and regards himself simply as the victim of a general, but inscrutable, visitation. Let us, then, examine briefly the Social Law.

In regarding the human faculties, we perceive that numberless gratifications spring from the social state. The muscles of a single individual could not rear the habitations, build the ships, forge the anchors, construct the machinery,

or, in short, produce the countless means of enjoyment that everywhere surround us, and that are attained in consequence of combinations of human power and skill, to accomplish a common end. Further, social intercourse is the means of affording direct gratification to a variety of our mental faculties. If we had lived in solitude, the propensities, the sentiments, and the reflecting faculties would have been deprived—some of them absolutely, and others of them nearly—of all opportunities of gratification. The social law, then, is the source of the highest delights of our nature, and its institution indicates the greatest benevolence towards us in the Creator.

Still, however, this law does not suspend or subvert the laws instituted for the regulation of the conduct of Man as an individual. If a man desires to take command of a ship and to arrive safely at its destination, the natural laws require that his intellectual faculties should have been previously instructed in navigation, in the boundaries of the seas, and in the features of the coasts to be visited; that he should know and avoid shoals, currents, and eddies; that he should trim his canvas in proportion to the gale; and that his animal faculties should be kept so much under subjection to his moral sentiments, that he should not abandon himself to drunkenness, sloth, or any animal indulgence, when he should be watchful at his duty. If he obey the natural laws, he will be safe; but if he disobey them, he may be drowned.* Only a small vessel, however, bound on a short voyage, could be managed by one man; for he must sleep, and he could not do so and manage his sails at the same time.

It is the interest, therefore, of those who wish to go to sea to avail themselves of the social law: that is, to combine their powers under one leader. By doing so, they may sail in a larger ship, have more ample stores of provisions, obtain intervals for rest, and enjoy each other's society. If, at the same time, they choose a captain qualified for his office, they will sail in safety; whereas if they place in charge of the ship a man whose intellectual faculties are weak, whose animal propensities are strong, whose moral sentiments are in abeyance, and who, in consequence, is

* I waive at present the question of storms which he could not foresee, as these fall under the head of ignorance of natural laws which may be subsequently discovered.

ignorant of navigation and habitually neglects the natural laws, they may suffer shipwreck.

It may be objected that the crew and passengers do not appoint the captain ; but they are at liberty to embark on board or to stay out of a particular ship, according as they discover the captain to possess the qualities necessary for command, or not. This, at present, ninety-nine persons out of a hundred never inquire into ; but an equal number neglect other natural laws, and suffer the penalties, because they have not been instructed in the existence and effects of these, or trained to obey them. But they have received from Nature the power of observing them ; and besides, I offer this merely as an illustration of the mode of operation of the social law.

Again : By engaging persons to assist us in the duties of life, our own tasks may be rendered less burdensome ; but we must employ individuals who know the moral law, and have the desire to act under it ; otherwise, we may be robbed, cheated, or murdered by ill-chosen confidential assistants.

By entering into co-partnership, merchants and others may extend the field of their exertions, and gain advantages beyond those they could reap as individuals. But, by the natural law, each must take care that his partner knows, and is inclined to obey, the moral and intellectual laws, as the only condition on which the Creator will permit him *securely* to reap the advantages of the social compact. If a partner in China be deficient in intellect and moral sentiment, another in London may be utterly ruined. It is said that this is an example of the innocent suffering for, or at least along with, the guilty ; but it is not so. It is an example of a person seeking to obtain the *advantages* of the social law without conceiving himself bound to fulfil the conditions required by it ; the first of which is that those of whose services he avails himself shall be capable and willing to observe the moral and intellectual laws.

Let us now advert to the calamities which overtake whole classes of men, or **COMMUNITIES**, under the social law—trace their origin—and see how far they are attributable to infringement of the Creator's laws.

If the whole faculties of Man are intended by the Creator to be harmoniously gratified, and if all natural institutions are in accordance with them, it follows that large communities of men who in their systematic conduct habitually

seek the gratification of the inferior propensities, and devote either no part, or too small and inadequate a part, of their time to objects relating to their higher powers, act in opposition to Nature, and will suffer the punishment of sorrow and disappointment. To confine our attention to our own country, I may remark that until the early part of this century the labouring population of Britain were not taught to refrain from multiplying their numbers beyond the demand for their labour; and that even now this is not viewed as a duty, nor acted on as a principle, by one in ten thousand of those whose happiness or misery depends on observance of the rule.

So little are such views appreciated, that the lives of the inhabitants of Great Britain generally are devoted to the pursuit of wealth, of power and distinction, or of pleasure: in other words, the great object of the labouring classes is to gratify the inferior propensities; of the mercantile, manufacturing, and agricultural population, to gratify acquisitiveness and self-esteem by accumulating wealth; of the more intelligent class of gentlemen, to indulge self-esteem and love of approbation by attaining political, literary, or philosophical eminence—and of another portion, by maintaining supremacy in fashion; and these gratifications are too frequently sought by means not in accordance with the dictates of the higher sentiments, but by the joint aid of the intellect and the animal powers. If the harmonious action of the whole faculties, and in cases of conflict the supremacy of the moral sentiments and the intellect, be the natural law, we should expect that, after rational restraint on population and the proper use of machinery, such moderate labour as will leave ample time for the exercise of the higher powers will suffice to provide for human wants; and that if this exercise be neglected, and the time which should be dedicated to it be employed in labour to gratify the propensities, direct evil will ensue—and this, accordingly, appears to me to be the result.

By means of machinery and the aids derived from science, the ground may be cultivated, and every necessary and luxury of life requisite for the wants of a moral and intelligent population may be produced in abundance by a moderate expenditure of labour. If men were to stop when they had reached this point, and were to dedicate the residue of each day to moral and intellectual pursuits, the consequence would be the existence of ready and steady, because

not overstocked, markets. Labour, pursued till it provided abundance, but not superfluity, would meet with a certain and just reward, and would also yield a vast increase of happiness ; for no joy equals that which springs from the harmonious gratifications of our whole faculties in accordance with the Creator's laws. Further, morality would be improved, for men, being happy, would become less vicious ; and, lastly, there would be improvement in the organic, moral, and intellectual capabilities of the race ; for each successive generation would start not only with greater stores of acquired knowledge than those which its predecessors possessed, but with higher natural capabilities of applying them to advantage.

Before merchants and manufacturers can be expected to act in this manner, a great change must, it is true, be effected in their sentiments and perceptions ; but so was a striking revolution effected in the views of the farmers near Edinburgh before they were induced to remove the pools stagnant between the ridges, and banished ague from their district. If any reader will compare the state of Scotland during the thirteenth, fourteenth, and fifteenth centuries (correctly and spiritedly represented in Sir Walter Scott's "Tales of a Grandfather") with its present condition, in regard to knowledge, morality, religion, and the relative ascendancy of the rational over the animal part of our nature, he will recognise so great an improvement in later times that the commencement of the millennium itself would scarcely be a greater advance beyond the present than the present is beyond the past. If the laws of the Creator are here rightly interpreted, it is obvious that, were they taught as elementary truths to every class of the community, and were the sentiment of obedience to them enforced, a set of new motives and principles would be brought into play, calculated to accelerate the change ; especially if it were seen—what, in the next place, I proceed to show—that the consequences of neglecting these laws are serious visitations of suffering which no sagacity can evade.

According to the views advocated in this Work, the system on which the manufactures of Great Britain are at present conducted is as great an aberration from the laws of Nature as were any of the previous pursuits of mankind recorded in the history of the world. It implies not only that the vast body of the people shall for ever remain in a condition little superior to that of mere working animals, in order

that, by means of cheap labour, our traders may undersell the merchants of all other nations, but also that our manufactures and commerce shall enjoy an indefinite extension—this being essential to their prosperity as they are now conducted, although in the nature of things impossible.

On the 13th of May, 1830, Mr. Slaney, M.P., called the attention of the House of Commons to the increase which had taken place in the number of those employed in manufacturing and mechanical operations, as compared with the agricultural class. He stated that “in England, the former, as compared with the latter, were 6 to 5 in 1801; they were as 8 to 5 in 1821; and, taking the increase of population to have proceeded in the same ratio, they were now as 2 to 1. In Scotland the increase had been still more extraordinary. In that country they were as 5 to 6 in 1801; as 9 to 6 in 1821; and now they were as 2 to 1. The increase in the general population during the last twenty years had been 30 per cent.; in the manufacturing population it had been 40 per cent.; in Manchester, Coventry, Liverpool, and Birmingham the increase had been 50 per cent.; in Leeds it had been 54 per cent.; in Glasgow it had been 100 per cent.” Here we perceive that a vast population has been called into existence and trained to manufacturing industry. I do not doubt that the skill and labour of this portion of the people have greatly contributed to the wealth of the nation; but I fear that the happiness of the labourers has not kept pace with the riches which they have created. The causes of their present condition appear to be the following:—

Several millions of human beings have been trained to manufactures, and are unfit for any other occupation. In consequence of the rapid increase of their numbers and of improvements in machinery, the supply of labour has for many years outstripped the demand for it, and wages have fallen ruinously low.* By a coincidence, which at first sight appears unfortunate, much of the machinery of modern invention may be managed by children. The parent who, by his own labour for twelve hours a day, is able

* The text was written in 1827, and since that period several important fluctuations have taken place in the profits of manufacturers and in the rate of wages; but the general system continued unchanged till freedom of trade produced, in the middle of this century, so marked an improvement in the rates of remuneration of labour.

to earn only seven shillings a week, adds to his income one shilling and sixpence or two shillings for each child whom he can bring to the manufactory: and by the united wages of the family a moderate subsistence may be eked out.*

As a counterpart to the injustice long practised by the masters against the operatives while the combination laws existed, we are now afflicted by attempts at equal injustice on the part of the operatives against the employers, in the form of trades unions. These are great combinations of the working-classes, by the rules of which each workman contributes a portion of his wages to a general fund, to be employed in supporting their interests against those of their masters. They resolve on terms and rates of wages; and if the masters do not comply with them, the operatives strike work, are supported out of the collected fund, and subject their employers to all the losses naturally attendant on the suspension of their business.

Combinations of workmen are legitimate and beneficial as long as they are conducted on moral principles; but many of them, in their constitution and action, are not so, but are engines of oppression. Some of them, for instance, insist on limiting the number of apprentices who may be received into an establishment, allowing only one apprentice to a certain number of journeymen employed. This is a clear infraction of the rights of the young, who are seeking to enter a trade by which they may gain their bread, and of the rights of the masters, who have a just title to employ that class of persons best suited to the purposes of their manufacture.

Not only so, but the unions persecute, sometimes by waylaying and beating, and almost universally by annoying and ejecting from their workshops, those individuals among themselves who decline to join in their combinations, and who are satisfied with the terms offered to them by their employers. This course of action is tyranny and oppression, an outrage on the rights of the operatives themselves, as well as on those of their masters, and it cannot benefit those who pursue it.

The operatives are clearly entitled to combine and to

* Recent legislation has corrected this evil by limiting the age at which employment may be entered upon, and by applying educational tests.—ED.

collect a general fund for the protection of their own just rights, but they are not absolved from the obligations of the laws of God or from the consequences of infringing them. The moment they endeavour to promote their own class-interests by injustice and the denial to others of the right of self-judgment, they become tyrants, and force all good men to resist them. By such conduct they infuse the elements of inevitable evils, of ultimate disappointment, and dissolution into their associations, and no human sagacity can save them from these consequences.

A practical faith in the doctrine that the world is arranged by the Creator in harmony with all the faculties, the moral sentiments and the intellect governing, would be of unspeakable advantage to all men ; for they would then be able to pursue with greater confidence the course dictated by moral rectitude, convinced that the result would prove beneficial, even although, when they took the first step, they could not distinctly perceive the issue.

Dugald Stewart remarks that Fenelon, in his "Adventures of Telemachus" makes Mentor anticipate some of the profoundest and most valuable doctrines of modern political economy, respecting the principles and advantages of free trade, merely by causing him to utter the simple dictates of benevolence and justice in regard to commerce. In Fenelon's day, such ideas were regarded as fitted only for adorning sentimental romances ; but they have since been discovered to be not only philosophical truths, but beneficial practical maxims. This is the case, apparently, because the world is really arranged on the principle of the supremacy of the moral and intellectual faculties, so that when men act agreeably to their dictates, the consequences, although they cannot all be foreseen, naturally tend towards good.

CHAPTER XII.

THE MORAL LAW AND LABOUR.

IN the whole system of the education and treatment of the labouring population, the laws of the Creator are either neglected or infringed. Life, with this class, is spent to so great an extent in labour, that their moral and intellectual powers are stinted of exercise and gratification, and their mental enjoyments, in consequence, are too much confined to the pleasures afforded by the animal propensities. Their existence is too little *rational*. The chief duty performed by their higher faculties is to communicate so much intelligence and honesty as to enable them to execute their labours with fidelity and skill. I speak, of course, of the great body of the labouring population: there are many individual exceptions of men who possess higher attainments, and I mean no disrespect to any portion of this most useful and deserving class of society; on the contrary, I represent their condition in what appears to me to be its true light, only with a view to excite them to amend it.

Does human nature, then, admit of such a modification of the employments and habits of this class as to raise them to the condition of beings whose pleasures shall embrace their rational natures?—that is, of creatures whose bodily powers and animal propensities shall be subservient to their moral and intellectual faculties, and who shall derive their enjoyment from the harmonious action of all their powers. To attain this end, it would not be necessary that they should *cease to labour*; on the contrary, the necessity of labour to the enjoyment of life is imprinted in strong characters on the structure of Man. The osseous, muscular, and nervous systems of the body all require exercise as a condition of health, while the digestive and sanguiferous apparatus rapidly fall into disorder if due exertion be neglected. Exercise of the body is labour; and labour directed to a useful purpose is more beneficial to the corporeal organs, and also more pleasing to the mind, than when undertaken for no other end than the preservation of health.*

* See Dr. Andrew Combe's "Physiology applied to Health and Education," 15th edit., chap. vii.

Commerce is rendered advantageous by the Creator, because different climates yield different productions, and different nations excel in different employments. Agriculture, manufactures, and commerce, therefore, are adapted to Man's nature, and I do not under-value them. But the prosecution of them is not the *chief end* of human existence, even on earth. Labour is beneficial to the whole human economy, and it is mere folly to regard it as in itself an evil ; but in order that it may be enjoyed, it must be moderate in intensity and duration. I say *enjoyed* ; because moderate exertion is pleasure—and it is only the suffering attendant on labour carried to *excess* which has given rise to the common opinion that retirement from active industry is the goal of happiness.

It may be objected that a healthy and vigorous man is not oppressed by ten or twelve hours' labour a day ; and I grant that, if he be well fed, his strength may not be so much exhausted by this exertion as to cause him pain. But this is regarding him merely as a working animal. My proposition is that after ten or twelve hours of muscular exertion a day, continued for six days in the week, the labourer is not in a fit condition for that active exercise of his moral and intellectual faculties which truly constitutes him a rational being. The exercise of these powers depends on the condition of the brain and the nervous system, and these are exhausted and deadened by too much muscular exertion ; the foxhunter and the ploughman, after a full day's work, fall asleep when they sit within doors and attempt to read or think. The truth of this proposition is demonstrable on physiological principles, and is supported by general experience ; nevertheless, the teachers of mankind have too often neglected it. The first change, therefore, needed for the improvement of the working-classes is a limitation of the hours of labour,* and the dedication of a portion of time daily to the exercise of the mental faculties.

So far from this limitation being unattainable, it appears to me that the progress of arts, sciences, and society is rapidly tending towards its adoption. Ordinary observers appear to conceive Man's chief end, in Great Britain at least, to be to manufacture hardware, broadcloth, and cotton

* Whether this limitation should be compulsory and the result of legislation, or should be effected by each man in his own interest, is a different question.—ED., 1893,

goods for the use of the whole world, and to store up wealth. They forget that the same impulse which inspires the British with so much ardour in manufacturing will sooner or later inspire other nations also ; and that if all Europe shall follow our example, and employ efficient machinery and a large proportion of their population in our branches of industry—which they are doing more and more—the four quarters of the globe will at length be deluged with manufactured goods, only part of which will be required. When this state of things shall arrive—and in proportion as knowledge and civilisation are diffused it will approach—labourers will be compelled by dire necessity to abridge their toil, because excessive labour will cease to be remunerated.

The admirable inventions which are the boast and glory of civilised men are believed by many to be at this moment adding to the misery and degradation of the people. Power-looms, steam-carriages, and steam-ships, it is asserted, have hitherto all operated directly in increasing the hours of exertion, and abridging the reward of the labourer ! Can we believe that God has bestowed on us the gift of an almost creative power solely to increase the wretchedness of the many, and to minister to the luxury of the few ? Impossible ! The ultimate effect of mechanical inventions on human society appears to be not yet divined. I hail them as the grand instruments of civilisation, by giving leisure to the great mass of the people to cultivate and enjoy their moral, intellectual, and religious faculties.

To enable Man to follow pursuits connected with his higher endowments, provision for the wants of his animal nature is necessary—namely, food, raiment, and comfortable lodging ; and muscular vigour, intellect, and mechanical ability have been conferred on him, apparently with the design that he should build houses, plough fields, and fabricate commodities. But we have no warrant for believing that any portion of the people are doomed to dedicate their whole lives and energies, aided by all mechanical inventions, to these ends as their proper business, to the neglect of the study of the works, and obedience to the will, of the Creator. Has Man been permitted to invent the steam-engine, and to apply it in propelling ships on the ocean and carriages on railways, in spinning, weaving, and forging iron—and has he been gifted with intellect to discover the astonishing powers of physical agents, revealed by chemistry and mechanics—only that he may be enabled to build more houses, weave more

cloth, and forge more iron, without any direct reference to his moral and intellectual improvement?

If a person unaided by animal or mechanical power had wished to travel from Manchester to Liverpool, a distance of thirty miles, he would have been under the necessity of devoting ten or twelve hours of time and considerable muscular energy to the task. When roads and carriages were constructed, and horses were trained, he could, by their assistance, have accomplished the same journey in four hours with little fatigue; and now, when railways and steam-engines have been successfully completed, he may travel that distance without any bodily fatigue whatever in an hour; and I ask, For what purpose has Providence bestowed on him the nine or ten hours of spare time which are thus set free? I humbly answer, That he may be enabled to cultivate his moral, intellectual, and religious faculties.

When mechanical inventions shall be generally diffused over the world, they will increase the powers of production to such an extent as to supply, by moderate labour, every want of Man; and then the great body of the people will find themselves in possession of reasonable leisure, in spite of every exertion to avoid it. Great misery will probably be suffered from persevering in the present course of action before their eyes shall be opened to this result. The first effect of these stupendous inventions threatens to be to accumulate wealth in the hands of a few, without proportionally abridging the toil or adding to the comforts of the many. This process of elevating a part of the community to affluence and power, and degrading the rest, threatens to proceed till the disparity of condition shall become intolerable to both, the labourer being utterly oppressed, and the higher classes harassed by insecurity. Then, probably, it may be recognised that the real benefit of physical discovery is to give leisure to the mass of the people, which is the first requisite of true civilisation, knowledge being the second. The science of human nature will enable men at length to profit by exemption from excessive toil; and it may be hoped that in the course of time sincere attempts will be made to render all ranks prosperous and happy, by institutions formed in harmony with all the faculties of Man, and with the order of God's providence on earth.

The same means will lead to the realisation of practical

Christianity. A man whose active existence is engrossed by mere bodily labour, or by the pursuits of gain or ambition, lives under the predominance of faculties that do not produce the perfect Christian character. The true practical Christian possesses a vigorous and enlightened intellect, and moral affections glowing with gratitude to God and love to Man ; but how can the people at large be enabled to attain this condition of mind if stimulus for the intellect and the nobler sentiments be excluded by the daily routine of their occupations ?

The objection has been stated that even in the most improved condition of the mass of the people there will still be found a considerable proportion of them so deficient in talent, so incapable of improvement, and so ignorant, that their labour will be worth little—and as they must obtain subsistence, no alternative will be left to them but to compensate their deficiency in skill by protracted exertion ; and that hence their long-continued labour, furnished at a cheap rate, will affect all the classes above them, and indeed prevent the views now advocated from ever being realised.

This objection resolves itself into the proposition, That the people have been destined by the Creator to be labouring animals, and that, from their inherent mental defects, they are incapable generally of being raised to any more honourable station : which is just the great point at issue between the old and the new philosophy. If mankind at large (for the industrious classes constitute so very great a majority of the race, that I may be allowed to speak of them as the whole) had been intended to be mere hewers of wood and drawers of water, I do not believe that the moral and intellectual faculties, which they unquestionably possess, would have been bestowed on them ; and as they do enjoy the rudiments of all the feelings and capacities which adorn the highest of men, and as these faculties are improvable, I cannot subscribe to the doctrine of their permanent incapacity.

The great cause of the stolidity of a portion of the people is their want of mental training and instruction in childhood. The mind acts by means of the brain, and the brain is subject to all the laws of physiology. An untrained and uneducated man is one whose moral and intellectual organs are incapable of vigorous action through disuse, just as his legs would have been if he had never been permitted to walk. He is not only ignorant but he is dull stupid, and incapable

of spontaneous reflection and persevering action in pursuit of a distant good. I speak, of course, only of average men ; for individuals appear who are naturally so energetic that they educate themselves. The incapacity of the former may be removed by early training.

I consider the operatives to be capable of learning, in the course of successive generations, to act as rational beings ; and I believe that whenever the great majority of them shall have acquired a sense of the true dignity of their nature, and a relish for the enjoyments afforded by the exercise of their higher powers, they will so regulate the supply of labour in reference to the demand as to obtain the means of subsistence in return for moderate exertion. When the natural laws shall have been fulfilled for some generations, it is possible that few imbeciles will exist, and that these few will be easily provided for by the multitudes of generous and enlightened persons who will exist around them.

There is, however, force in the last-mentioned objection, considered in reference to the present generation. In throwing out these views, I embrace centuries of time. I see the slow progress of the human race in the past, and do not expect miracles in the future. If a sound principle, however, be developed—one having its root in Nature—there is a certainty that it will wax strong and bear fruit in due season ; but that season, from the character of the plant, may be a distant one. All who aim at benefiting mankind should keep this truth constantly in view. Almost every scheme is judged of by its effects on the living generation ; whereas no great fountain of happiness ever flowed clear at first, or yielded its full sweets to those who opened it.

It is now an established principle in political economy that Government ought not to interfere with industry.* This maxim was highly necessary when rulers were grossly ignorant of all the natural laws which regulate production and the private interests of men, because then their enactments were, in general, absurd—they often did much harm, and they rarely did good. But if the science of human nature were once fully and clearly developed, it is probable that the rule might with great advantage be relaxed, and

* At least in the case of men. It is recognised that women and children require protection.—*Ep.*, 1893.

that the Legislature might considerably accelerate improvements by adding the constraining authority of human laws to enactments already proclaimed by the Creator. Natural laws do exist, and evil is suffered if they are not obeyed.

Now, if the great body of intelligent men in any State saw clearly that a course of action pursued by the ill-informed of their fellow-subjects was the source of continual suffering, not only to the evil-doers themselves, but to the whole community, it appears to me allowable that it should be averted by legislative enactment. If the majority of the middle classes resident in towns were to request Parliament to ordain shops in general to be shut at eight o'clock, or even at an earlier hour, to allow time for the cultivation of the rational faculties of those engaged in them, it would be no stretch of power to give effect to the petition—no evil would ensue, although the avaricious were prevented by law from continuing ignorant, and from forcing all their competitors in trade to resemble them in their defects.

If the Creator has so constituted the world that men may execute all necessary business, and still have time to spare for the cultivation of their rational faculties, any enactments of the Legislature calculated to facilitate arrangements for accomplishing both ends would be beneficial and successful, because accordant with Nature, although the prejudiced and ignorant of the present generation might complain and probably resist them. Their ignorant resistance would be the only real obstacle to the success of a law supported by the order of Nature; but while they continued ignorant they probably would defeat its beneficial operations. Were it not for this ignorant unbelief in the advantages which follow from obedience to the natural laws, legislative enactment might go much further than it does; for its only limits seem to me to be those of the real knowledge of Nature.

As long as the Legislature enacts in conformity with Nature, and the subjects give the law a willing and intelligent obedience, the result will be beneficial. At present ignorance is too extensive and prevalent to authorise Parliament to venture far. From indications which already appear, however, I think it probable that the labouring classes will one day recognise the natural laws as deeply interesting to themselves; and whenever their minds shall be opened to rational views of their own constitution as men, and their position as members of society, I venture to

predict that they will devote themselves to improvement with a zeal and earnestness that in a few generations will change the condition of their order.

The consequences to *the middle ranks* of the community of departing from the moral law are in accordance with the effects on the lower. Uncertain gains—continual fluctuations in fortune—the absence of all reliance, in their pursuits, on moral and intellectual principles—a gambling spirit—an insatiable appetite for wealth—alternately the extravagant joys of excessive prosperity and the bitter miseries of disappointed ambition—render the lives of manufacturers and merchants too often scenes of vanity and vexation of spirit. Viewed as the *chief occupations* of a nation, manufactures and commerce are disowned by reason; for, as now conducted, they imply the permanent degradation of the great mass of the people. They already sap England's strength, and unless they shall be regulated by sounder views than those which at present prevail, they may eventually involve the population in misery.

The oscillations of fortune which almost the whole of the middle ranks of Great Britain experience in consequence of the alternate depression and elevation of commerce and manufactures are attended with extensive and severe suffering to individuals. Deep, though often silent, agonies pierce the heart, when ruin is seen stealing, by slow but certain steps, on a young and helpless family; the mental struggle often undermines the parent's health, and conducts him prematurely to the grave. No death can be imagined more painful than that which arises from a broken spirit, robbed of its treasures, disappointed in its ambition, and conscious of failure in the whole scheme of life. The best affections of the soul are lacerated and agonised at the prospect of leaving their dearest objects to struggle with a cold and selfish world. Thousands of the middle ranks, unhappily, experience these misfortunes in every passing year.

Nothing is more essential to happiness than fixed principles of action, on which we can rely for our present safety and our future welfare; and the Creator's laws, when seen and followed, afford this support and delight to our faculties in a high degree. It is one, and not the least, of the punishments that overtake the middle classes for neglecting these laws that they do not, as a permanent condition of mind, feel secure and internally at peace with themselves. In days of prosperity they continue to fear adversity. They

live in a constant struggle with fortune, and when the excitement of business has subsided vacuity and craving are experienced. These proceed from the moral and intellectual faculties calling aloud for gratification ; but, owing to an imperfect education, either idleness, gossiping conversation, fashionable amusements, or intoxicating liquors are resorted to, and with these a vain attempt is made to fill up the void of life. This class ardently desires a change that would remove the evils here described, and will zealously co-operate in diffusing every kind of knowledge by means of which this end may be accomplished.

The punishment which overtakes *the higher classes* is equally obvious. If they do not engage in some active pursuit, calculated to give scope to their energies, they suffer the evils of *ennui*, morbid irritability, and excessive relaxation of the functions of mind and body, which carry in their train more suffering than even that which is entailed on the operatives by excessive labour. If they pursue ambition in the senate or in the field, in literature or in philosophy, their success is in exact proportion to the approach which they make to observance of the supremacy of the moral sentiments and the intellect.

Sully, Franklin, and Washington may be contrasted with Sheridan and Buonaparte as illustrations. Sheridan and Napoleon did not systematically pursue objects sanctioned by the higher sentiments and the intellect as the end of their exertions ; and no person who is a judge of human emotions can read the history of their lives, and consider what must have passed within their minds, without coming to the conclusion that even in their most brilliant moments of external prosperity the canker was gnawing within, and that there was no moral relish of the present or reliance on the future, but a mingled tumult of inferior propensities and intellect, carrying with it an habitual feeling of unsatisfied desires.

CHAPTER XIII.

THE MORAL LAW AND NATIONAL PROSPERITY.

LET us now consider the effect of the moral law on NATIONAL prosperity.

In surveying the faculties common to Man with the lower animals, we perceive that they are all selfish in their objects. "Throughout organic nature," says a friend who has supplied many valuable suggestions for this work, "we see that one species preys upon another, inflicting pain of various kinds, of various degrees of intensity and duration, mental and bodily. And among individuals of the same species we find robbery, bullying, beating, and murdering, pretty much as we do among men, allowing for the greater powers of mischief possessed by Man through his greater endowments of mind." When we include the whole races of the inferior animals, the representation is borne out by facts : fishes, for example, devour each other, the strong making their meals of the weak. Limits, however, are set by Nature to the inroads of these selfish faculties, in one individual and in one race, on the welfare of others, by denying reason to all of them, and by balancing instincts of evasion, escape, or defence against instincts of aggression ; so that, as a general result, the different races continue to exist, and to enjoy, while they live, no mean portion of happiness, even amidst all the dangers which surround them. If this be true of each race, it holds good also as to the great mass of the individuals who compose it ; for a race is not a being, but merely the aggregate of individuals composing it.

As moral sentiments have been bestowed on Man, the question presents itself, Has the world, in reference to nations, been arranged in harmony with their supremacy, or has it not ? Granting, what cannot be denied, that the strong in animal and intellectual power among nations, as among the inferior creatures, may make the weak their prey, is this the best mode of pursuing and working out their own happiness and prosperity ?

The natural sources of wealth are *industry* and *economy*. By robbery and murder, men may for a time appropriate

wealth already produced by their weaker brethren ; but under such treatment the sources of it must soon be exhausted. Producers cease to labour and to save, if not to exist, when exposed to barbarous rapacity. No human skill, therefore, can render a nation permanently rich by neglecting industry and by prosecuting conquest and plunder.

If the world is constituted on the principle of the supremacy of the moral sentiments and the intellect, the practice of one nation seeking riches and power by conquering, devastating, or obstructing the prosperity of another must be *essentially futile* : being in opposition to the moral constitution of creation, it must occasion misery while in progress, and can lead only to the impoverishment and mortification of the people who pursue it.

It is narrated that Themistocles told the Athenians that he had conceived a project which would be of the greatest advantage to Athens, but that the profoundest secrecy was necessary to ensure its success. They desired him to communicate it to Aristides, and promised, if he approved, to execute it. Themistocles took Aristides aside, and told him that he proposed, unawares, to burn the ships of the Spartans, then in profound peace with the Athenian State, and not expecting an attack, which would have very much weakened the Spartan power. Aristides reported that nothing could be more *advantageous*, but nothing more *unjust*, than the project in view. The people refused to hear or to execute it.

Here the *intellect* of Aristides appears to have viewed the execution of the scheme as *beneficial*, while his sentiment of conscientiousness distinctly denounced it as *morally wrong* ; and the question is : Whether Nature is so constituted that the intellect can, *in any case*, possess sufficient data for inferring actual benefit from conduct which is disowned and denounced by the moral sentiments. It appears to me that it cannot. Let us trace the project of Themistocles to its results.

The inhabitants of Sparta possessed the faculties of self-esteem, combativeness, destructiveness, intellect, benevolence, and conscientiousness. The destruction of their ships in time of profound peace would have outraged their higher sentiments and their intellect, and these would have kindled combativeness and destructiveness into the most intense activity. The greater the injustice of the act,

the fiercer would the flame of opposition, retaliation, and revenge have glowed ; and not only so, but the more grossly and wantonly the moral sentiments were outraged by the act, the higher would have been the class of minds which would have instinctively burned with the desire of revenge, and the more powerful would they have been, by wealth, intelligence, and determination, to inflict it. The Athenians, then, by the very constitution of Nature, would have been assailed by this fearful storm of moral indignation and animal resentment, rendered doubly terrible by the most virtuous and intelligent being converted into the most determined of their opponents.

Turning to their own State again : only those individuals among themselves in whom intellect and moral sentiment were inferior to acquisitiveness and self-esteem, which give rise to selfishness and the lust of power, could have cordially approved of the deed. The virtuous would have turned from the contemplation of it with shame and sorrow ; and thus both the character and the number of the defenders would have been diminished in the very ratio of the atrocity of the crime, while the power of the assailants, as we have seen, would, by the very circumstance, have been proportionately increased.

It was impossible, therefore, that permanent advantage to Athens could have resulted from such a flagrant act of iniquity ; and the apparent opposition, in the judgment of Aristides, between the justice of the deed and the benefits to be expected from it arose from his intellect not being sufficiently profound and comprehensive to grasp the whole springs which the enterprise would set in motion, and to trace out the ultimate results. In point of fact, there would have been no opposition between the dictates of conscientiousness and those of an intellect that could accurately survey the whole causes and effects which the unjust enterprise would involve ; and the Athenians, in listening to the suggestions of the moral sentiments, actually followed the most advantageous course which it was possible for them to pursue. The trite observation that honesty is the best policy thus becomes a profound philosophical maxim when traced to its foundation in the constitution of human nature.

If the Creator has constituted the world in harmony with the dictates of the moral sentiments, the highest prosperity of each particular nation should be thoroughly compatible

with that of every other. Hence England, by sedulously cultivating her own soil, pursuing her own courses of industry, and regulating her internal institutions and external relations by the principles of benevolence, veneration, and justice, which imply abstinence from wars of aggression, from conquest, and from all selfish designs of commercial monopoly, should be able to attain to the highest condition of prosperity and enjoyment that Nature admits of ; and every act in which she deviates from these principles should carry inevitable evil to herself along with it. The same statement may be made with respect to France and every other nation.

According to this principle, also, the Creator should have conferred on each nation such peculiar advantages of soil, climate, situation, or genius as should enable it to produce something which other States want, and thus to carry on amicable intercourse with them in a beneficial exchange of the products peculiar to each ; so that the higher one nation rose in morality, intelligence, and riches, the more estimable and valuable it should become as a neighbour to all the surrounding States. This is so obviously the real constitution of Nature, that proof of it would be superfluous.

England, however, as a nation, long set this law at defiance. She led the way in taking the propensities as her guides, in founding her laws and institutions upon them, and in following them in her practical conduct. England placed restrictions on trade, and carried them to the greatest height ; she conquered colonies, and ruled them in the full spirit of selfishness ; she encouraged lotteries, fostered the slave-trade, and carried paper money and the most avaricious spirit of manufacturing and speculating in commerce to their highest pitch ; she defended corruption in Parliament, and distributed churches and seats on the bench of justice on principles purely selfish : all in direct opposition to the supremacy of the moral law. If the world had been created in harmony with the predominance of the animal faculties, England would have been a most felicitous nation ; but as the reverse is the case, it was natural that a severe national retribution should follow these departures from the Divine institutions—and grievous accordingly has been, and I fear will be, the punishment.

My conviction, therefore, is that nations as well as individuals are placed under the moral law, and that the world

is constituted in harmony with that law. As already remarked, wealth, the great object of national as well as of individual pursuit, can be *produced* only by *industry*, and can be *accumulated* only by the practice of *economy*. This law of Nature is as certain and unbending as that of gravitation. If the rulers of a nation, blind to this fact, attempt to fill their own coffers by imposing on their subjects taxes and fiscal restrictions which sap the foundations of industry and disappoint the calculations of prudence, they will defeat the object they pursue. If, coveting the wealth of a neighbouring State, they expend the accumulated savings of the industry of their subjects in wars of aggression, they will sacrifice the treasure which they already possess, and follow an impracticable method of acquiring more. If they fight for power, they will waste their own strength in vain if their enemy be strong ; if he be weak and easily overcome, they will immolate their own morality, and with it their security and prosperity, in robbing and oppressing him.

In short, after doing their best to acquire riches and dominion, to spread prosperity and enjoyment around their own hearths, by an immoral course of action, they will discover that all their attempts have ended in vanity and vexation of spirit. They will be compelled to resort to the natural fountains of wealth—industry and economy—or to submit to that ruin which is inevitably connected with perseverance in injustice and aggression. This law of Nature admits of no exception. England owes her wealth and power to her steam-impelled machinery, her cultivated fields, and her economy, and not to her conquests and subject colonies.

The history of Rome is instructive on this subject. The Romans despised industry, and followed war and spoliation as their employments. Accordingly, at no period of their history did they present the spectacle of a moral, happy, and industrious people. Generally speaking, the nobles were steeped in luxury and vice. They became the instruments of public rapacity, and the victims alternately of ferocious mobs and of frantic tyrants. Under the Empire, the Roman plebeians were idle, ignorant, turbulent, and barbarous paupers—fed from the receptacles of public plunder, and ever ready to sell themselves and their country to the highest bidder. There were, indeed, some periods of tranquillity and of comparative virtue, but these occurred

exclusively under the sway of able and *moral* rulers. There also appeared, from time to time, individuals whose integrity, patriotism, and high intellectual attainments shed a lustre on their country's annals ; but they also were moral.

The general course of action, however, of the Romans was immoral. Their abandonment of virtuous, intellectual, and industrial pursuits, and their reliance on spoliation for subsistence, in the course of time enervated both the minds and the bodies of the people, rendering them incapable of self-restraint, of social combination, and of vigorous action ; while their cruel oppressions fostered a spirit of deadly hatred against them in surrounding nations. At length the cup of their iniquity was full ; and the injured, uncorrupted, and comparatively virtuous barbarians burst upon them like a torrent of destruction, annihilated their empire, and extinguished their name.*

Moreover, the condition of animal supremacy, which leads to foreign aggression and its attendant crimes, is necessarily the parent of immoral and injurious action at home. The same fountain cannot give forth both bitter and sweet waters at the same time.

England for a long time protected the slave-trade. During the periods of her greatest sin in this respect, the same combination of faculties which perpetrated this outrage on humanity was working vigorously in her own institutions, and producing punishment for that offence. A general spirit of domineering and rapacity appeared in her statesmen, rendering them profligate in their public characters, and little mindful of the welfare of the people. A spirit of aggression and hostility towards other nations provoked retaliation ; while injustice in taxation, and an oppressive harshness in the administration of the law, formed striking features of the history of that period. While these

* In November, 1843, I visited the Forum and the Coliseum in Rome, and saw the broken pillars, the ancient pavement, the three triumphal arches of Constantine, Titus, and Septimius Severus, the palace of the Cæsars, and other ruined remains of Roman grandeur. I felt a solemn satisfaction in seeing the power of the propensities, of which these are the mouldering monuments, thus humbled in the dust, and eloquently proclaiming to the world that no dominion that is based on evil can permanently endure. Rome was subverted by the same powers by which she conquered—animal propensity directed by vigorous intellect.

measures of injustice were publicly patronised by the Government, its servants vied with each other in injustice towards it, and its subjects dedicated their talents and their enterprise towards corrupting its officers and cheating it of its dues. Every trader who was liable to excise or custom duties evaded one-half of them, and did not feel that there was any disgrace in doing so.

In the American war, Great Britain desired to gratify her acquisitiveness and her self-esteem, in opposition to benevolence and justice, at the expense of her transatlantic colonies. This aroused the animal resentment of the latter, and the propensities of the two nations came into collision. Great Britain fought to support a dominion incompatible with the principles which regulate the moral government of the world, and in expectation of becoming rich and powerful by success in that enterprise ; the Americans, on the other hand, striving to assert the supremacy of the higher sentiments, and to become free and independent. According to the principles which I am now illustrating, the greatest misfortune that could have befallen Great Britain would have been success, and the greatest advantage, failure in her attempt ; and the result is now acknowledged to be in exact accordance with this view.

If Great Britain had subdued her colonies in the American war, she would have ruled them as slaves. This, in the first place, would have roused the animal faculties of the conquered party, and would have led them to give her all the annoyance in their power ; and the expense of the fleets and armies requisite to repress that spirit would have far counterbalanced the profits she could have wrung out of dissatisfied subjects by extortion and oppression. In the second place, the very exercise of these lower faculties by herself, in opposition to the moral sentiments, would have rendered her government at home destructive of her own welfare. The same malevolent principles would have overflowed on her own subjects. The Government would have felt uneasy, and the people rebellious, discontented, and unhappy ; and the moral law would have been amply vindicated by the suffering which would have everywhere abounded.

The consequences of her failure have been the reverse. America has sprung up into a great and moral nation, and contributes ten times more to the wealth of Great Britain, in her natural character of a friend, than she ever could have

done in that of a discontented colony. This advantage is reaped without any loss, anxiety, or expense ; it flows from the Divine institutions, and both nations profit by it and rejoice under it. The moral and intellectual rivalry of America, instead of prolonging the ascendancy of the propensities in Great Britain, tends strongly to excite the moral sentiments in her people and government ; and every day that we live we are reaping the benefits of this improvement, in wiser institutions, in deliverance from abuses, and in a higher and purer spirit pervading every department of the administration of the country. Great Britain, however, did not escape the attempt to infringe the moral laws. The pages of her history during the American war are dark with suffering and gloom, and to this day we groan under the debt and difficulties then partly incurred.

The national debt of Britain has been contracted chiefly in wars, originating in commercial jealousy and in thirst for conquest : in short, under the suggestions of combativeness, destructiveness, acquisitiveness, and self-esteem.* Did not our ancestors, then, impede their own prosperity and happiness by engaging in these conquests ? and have any consequences of them reached us, except the burden of paying nearly thirty millions of taxes annually as the price of the gratification of their propensities ? Would a statesman who believed in the supremacy of the moral sentiments and

* Of 127 years terminating in 1815, England spent 65 in war and 62 in peace. The war of 1688, after lasting nine years, and raising our expenditure in that period 36 millions, was ended by the treaty of Ryswick in 1697. Then came the war of the Spanish succession, begun in 1702, and concluded in 1713, which absorbed 62½ millions of our money. Next was the Spanish war of 1739, settled finally at Aix-la-Chapelle in 1748, after costing us nearly 64 millions. Then came the seven years' war of 1756, which terminated with the treaty of Paris in 1763, and in course of which we spent 112 millions. The next was the American war of 1775, which lasted eight years. Our national expenditure in this war was 136 millions. The French revolutionary war began in 1793, lasted nine years, and exhibited an expenditure of 464 millions. The war against Buonaparte began in 1803, and ended in 1815 ; during these twelve years we spent 1,159 millions, 771 of which were raised by taxes and 388 by loans. In the revolutionary war we borrowed 201 millions ; in the American, 104 millions ; in the seven years' war, 60 millions ; in the Spanish war of 1739, 29 millions ; in the war of the Spanish succession, 32½ millions ; in the war of 1688, 20 millions ;—total borrowed in the seven wars during 65 years, about 834 millions. In the same time we raised by taxes 1,189 millions ; thus forming a total expenditure on war of **TWO THOUSAND AND TWENTY-THREE MILLIONS OF POUNDS STERLING.**—*Weekly Review.*

the intellect have recommended these wars *as essential to national prosperity?* If the twentieth part of the sums had been spent in effecting objects recognised by the moral sentiments—in instituting, for example, seminaries of education and penitentiaries, and in making roads, canals, railways, and public parks—how different would have been the present condition of the country!

After the American war followed that of the French Revolution. Opinions are at present divided on this subject; but my view of it is the following. When the French Revolution broke out, the domestic institutions of Great Britain were, to a considerable extent, founded and administered on principles in opposition to the supremacy of the moral sentiments. A clamour was raised by the nation for reform of abuses. If the principle be sound that every departure from the moral law, in nations as well as in individuals, carries its punishment with it from the hour of its commencement till its final cessation, and if the institutions of Great Britain were then to any extent defective, she could not have done better than to have abandoned them, and to have adopted purer arrangements. Her Government, however, clung to the suggestions of the propensities, and resisted every innovation. To divert the national mind from causing a revolution at home, they embarked in a war abroad, and for a period of twenty-three years let loose the propensities on France with headstrong fury and a fearful perseverance.

France, no doubt, threatened the different nations of Europe with violent interference with their Governments: a menace wholly unjustifiable, and one which called for resistance. But the rulers of that country were preparing their own destruction, in proportion to their departure from the moral law; and a statesman who knew and had confidence in the constitution of the moral world as now explained would have listened to her threats with composure, have prepared to repel actual aggression, and have left the exploding of French infatuation to the Ruler of the Universe, in unhesitating reliance on the efficacy of His laws. Great Britain preferred a war of aggression. If this conduct was in accordance with the dictates of the higher sentiments, we should now be reaping the reward of our obedience to the moral law, and plenty and rejoicing should flow down our streets like a stream.

But mark the contrast. This island exhibits the spectacle

of millions of men toiling to the extremity of human endurance for a pittance scarcely sufficient to sustain life ; weavers labouring for fourteen or sixteen hours a day for eightpence, and frequently unable to procure work even on these terms ; other artisans exhausted almost to death by laborious drudgery, who, if better recompensed, seek compensation and enjoyment in the grossest sensual debauchery, drunkenness, and gluttony ; master-traders and manufacturers anxiously labouring for wealth, now gay in the fond hope that all their expectations will be realised, then sunk in despair by the ploughshare of ruin having passed over them ; landholders and tenants now reaping unmeasured returns from their properties, then pining in penury amidst an overflow of every species of produce ; the Government cramped by an overwhelming debt and the prevalence of ignorance and selfishness on every side, so that it is impossible for it to follow with a bold step the most obvious dictates of expediency and justice, by reason of the countless prejudices and imaginary interests which everywhere obstruct the path of improvement. This much more resembles punishment for transgression than reward for obedience to the Divine laws. It has all flowed as the natural and inevitable consequence of neglecting the moral culture and elevation of our labouring population, of pursuing wealth irrespective of the laws by which its creation and distribution are regulated, and of inattention to the order of Providence in the natural constitution of the world.

If every man in this country will turn his attention inwards, and reckon the pangs of disappointment which he has felt at the subversion of his darling schemes by unexpected turns of public events, or the deep inroads on his happiness which such misfortunes overtaking his dearest relations and friends have occasioned to him ; the numberless little enjoyments in domestic life which he is forced to deny himself in consequence of the taxation with which he is loaded ; the obstructions to the fair exercise of his industry and talents presented by stamps, licences, excise laws, custom-house duties, *et hoc genus omne* ; he will discover the extent of suffering attached by the Creator to national transgressions. From my own observation, I should say that the miseries inflicted upon individuals and families by fiscal prosecutions founded on excise laws, stamp laws, post-office laws, &c., all originating in the necessity of providing for the national

debt, are equal to those arising from some of the most extensive natural calamities.

It is true that few persons are prosecuted without having offended ; but the evil consists in presenting men with enormous temptations to infringe mere financial regulations, not always in accordance with natural morality, and then inflicting ruinous penalties for transgression. Men have hitherto expected the punishment of their offences in the thunderbolt or the yawning earthquake, and have believed that, because the sea did not swallow them up, or the mountains fall upon them and crush them to atoms, Heaven was taking no cognisance of their sins ; while, in point of fact, an omnipotent, all-just, and all-wise God had arranged before they erred an ample retribution in the very consequences of their transgressions. It is by looking to the *principles* in the mind from which transgressions flow, and attending to their operations and results, that we discover the real mode of action of the Divine government. When men shall be instructed in the laws of creation, they will discriminate more accurately than heretofore between natural and factitious evils, and will become less tolerant of the latter.

Since the foregoing observations were written, in 1826, a great measure of Parliamentary Reform has been carried into effect in Britain and Ireland, and already considerable progress has been made in rectifying our national institutions. For the first time in the annals of the world a nation has voluntarily contributed a large sum of money for the advancement of pure benevolence and justice. We have agreed to pay twenty millions sterling for the freedom of 800,000 human beings, whom our forefathers had led into hopeless slavery. Free trade has been established. Sinecures have been abolished, monopolies destroyed, entails relaxed, unmerited pensions checked, and taxation lightened ; and there is a spirit abroad which demands the reform of all other abuses in Church and State. There is also a strong and growing desire for an efficient system of national education.*

These and similar changes tend to bring the institutions of the country into harmony with the dictates of reason

* This desire has now been gratified by the establishment of free national education all over the United Kingdom.—Ed., 1893.

and the moral sentiments, the effect of which will infallibly be not only to increase the physical enjoyments, but greatly to advance the moral, intellectual, and religious condition of the people. Example is the most powerful instructor, and in vain did a priesthood allied to the State preach truth, justice, and benevolence to the people while selfishness, oppression, and profligacy were practised by their masters and themselves. No more effectual means of improving the morals of the people can be devised than that of purifying all public institutions, and exhibiting justice and kindly affection as the animating motives of public men and national measures.

Of all national enormities, that of legalising the purchase of human beings and conducting them into slavery is probably the most atrocious and disgraceful. Great Britain was long chargeable with this iniquity. The callous inhumanity, the intense selfishness, and the utter disregard of justice implied in the practice must have overflowed in numerous evils on the British people themselves. Indeed, the state of wretched destitution in which the Irish peasantry were allowed to remain, and the unheeded increase of ignorance, poverty, and toil in the manufacturing districts, were the natural and legitimate fruits of the same spirit that patronised slavery; and these were preparing punishments for the nation when, at length, repentance appeared. Slavery has been abolished by Great Britain, and I hail this as the first step in a glorious career of moral legislation.

The Spaniards, under the influence of selfish rapacity and ambition, conquered South America, inflicted upon its wretched inhabitants the most atrocious cruelties, and continued for three hundred years to weigh like a moral incubus upon that portion of the globe. In that conquest they set at naught the laws of religion and morality. They sought for wealth, not from industry, but from war and plunder. This conduct fostered avarice and pride in the Government, baseness in the nobles, and indolence, ignorance, and mental depravity in the people; it led them to imagine happiness to consist, not in the exercise of the moral and intellectual powers, but in the gratification of all the inferior, to the outrage of the higher feelings. Intellectual cultivation was neglected, the sentiments ran astray into bigotry and superstition, and the propensities acquired a fearful ascendancy. These causes made them the prey of

internal discord and of foreign invaders, and Spain at this moment suffers an awful retribution.

In surveying the present aspect of Europe, we perceive astonishing improvements achieved in physical science. How much is implied in the mere names of the steam-engine, the power-loom, rail-roads, steam-boats, canals, and gas-lights ; and yet of how much misery are several of these inventions at present the direct sources, in consequence of being almost exclusively dedicated to the gratification of the propensities ! The leading purpose to which the steam-engine in almost all its forms of application is devoted is the accumulation of wealth ; and until a very recent date few persons proposed to lessen by its means the hours of toil of the lower orders of society, so as to afford them opportunity and leisure for the cultivation of their moral and intellectual faculties, and thereby to enable them to render a more perfect obedience to the Creator's institutions.

Physical has far outstripped moral science ; and it appears to me that, unless mankind shall have their eyes opened to the real constitution of the world, and be at length induced to regulate their conduct in harmony with the laws of the Creator, their future physical discoveries will tend only to deepen their wretchedness. Intellect, acting as the ministering servant of the propensities, will lead them only further astray. The science of Man's whole nature, animal, moral, and intellectual, was never more required to guide him than at present, when he seems to wield a giant's power, but in the application of it to display the ignorant selfishness, wilfulness, and absurdity of an overgrown child. History has not yielded half her fruits, and cannot yield them until Man shall possess a true theory of his own nature, and a religion in harmony with the order of Providence.

England has still much to learn in this respect. Her conquest and dominion of India are immoral ; and as God's laws can neither be abrogated nor evaded, serious social evils must, at this moment, be flowing to herself from the immoral action, in her own social circles, of the selfish and domineering propensities which have prompted her to make and to retain that violent acquisition. At the same time, these conquests could not occur without weakness and immorality predominating in the subjected nation. Their fate is the consequence of their own low moral, intel-

lectual, and physical condition ; and apparently the scourge, even of foreign oppression, is intended to stimulate its victims to greater energy of action, or to sweep them away as encumberers of the soil. The first aim of Nature seems to be to develop strength, and to give the world to the energetic. Among moral beings, however, that strength must be regulated by morality, else they must suffer. The immoral may *possess*, but the natural law declares that they shall not *enjoy*, the earth.

If I might hazard a conjecture in regard to India, I should hope that before the close of another century the public mind of Great Britain will have made so great a progress in the knowledge of, and belief in, the moral order of God's providence, that it will compel her rulers either to relinquish that conquest as prejudicial equally to England and to India, or to administer it on the principles of morality for the benefit of the Indian people themselves. It may be affirmed that this is already done, and that, under British sway, India is now more prosperous and happy than she ever was under her native princes. English testimony, however, is not competent to establish this proposition ; and we have never heard it confirmed by the general voice of the conquered people. Besides, it is notorious that we rule India as a conquered nation, and deprive her people of all high places of honour and authority in the administration of their own affairs.

A moral government of India would imply a thorough education of her people in the natural laws, and training them to reverence and obey them ; the employment of them in the administration of their own government ; placing them on a footing of equality, in rights and rank, with the British ; and preparing them to become a free, moral, and intellectual people. If we should ever bring them into this condition, and be contented to act towards them on the principles of beneficence and justice, we might withdraw our armies and enjoy all the profits of their commerce from the bonds of interest, respect, and affection which such conduct would evoke.

These ideas will probably appear chimerical and utopian to most readers, but the other alternative is not fanciful. While the British public mind continues to disbelieve in God's moral government of the world, and to sanction the present system of domination in India, British institutions will never become thoroughly moral at home ; and so long

as they continue immoral, her religion will prove a rope of sand to bind her people to virtue; her wealth will be a snare, and her power will have a canker at its core that will eat out its strength, and add her empire to the list of those that have fallen by their defiance of God's moral providence, and their reliance on their own animal and intellectual superiority.*

Many persons believe that they discover evidence against the moral government of the world in the success of men not highly gifted with moral and intellectual qualities who attain to great wealth, rank, and social consideration, while men of far superior merit remain in obscurity and poverty. But the solution of this difficulty is to be found in the consideration that success in society depends on the possession, in an ample degree, of the qualities which society needs and appreciates, and that these bear reference to the state in which society finds itself at the time when the observation is made. In the savage and barbarous conditions, bodily strength, courage, fortitude, and skill in war lead a man to the highest honours; in a society like that of modern England, commercial or manufacturing industry may crown an individual with riches, and great talents for debate may carry him to the summit of political ambition. In proportion as society advances in moral and intellectual

* These remarks on India first appeared in the eighth edition, which was published in 1847. Ten years afterwards, when the great rebellion took place, the event was regarded by the author as a strong confirmation of his views. In February, 1858, he published in a little pamphlet, entitled *Our Rule in India*, a correspondence on this subject between himself and his friend, Mr. W. R. Young, author of *A Few Words on the Indian Question*, who had for several years administered a district in India. Mr. Combe's final letter concludes as follows: "The natives of India never can love us or our yoke; because we are conquerors and foreigners. Let us not, therefore, force unacceptable peace and justice upon them, which they do not prize at our hands. What we call peace and justice must appear to them oppression, because conquest poisons its source. Let us, then, restore order, and devise means to slip out of our conquered territories as soon as this can be advantageously accomplished." A beginning has now been made in the political emancipation of the people of India in the Ilbert Bill, which allows natives to act as judges.—ED., 1893.

In his work on *The Relation between Science and Religion*, the author shows how heavy a retribution England has suffered as the fruit of the oppressive manner in which she has governed Ireland during several centuries.—ED.

acquirements, it will make larger demands for high qualities in its favourites.

The reality of the moral government of the world is discernible in the different degrees of happiness which individuals and nations enjoy in these different states. If unprincipled commercial and political adventurers were happy in proportion to their apparent success ; or if nations were as prosperous under the dominion of reckless warriors as under that of benevolent and enlightened rulers ; or if the individuals who compose a nation enjoyed as much serenity and joy of mind when they advanced bold, selfish, and unprincipled men to places of trust and power, as when they chose the upright, benevolent, and pious, of equal intellectual attainments—the dominion of a just Creator might well be doubted. But the facts are not so.

CHAPTER XIV.

SUFFERING UNDER THE NATURAL LAWS.

THE next point connected with the Natural Laws which I shall consider is the principle on which suffering for infringement of them is inflicted in this world. To prevent misunderstanding of the sense in which I use the word *suffering* or *punishment*, I request the reader to bear in mind the observations made on this subject in the introductory chapter.*

Every law prescribed to intelligent beings pre-supposes a superior who establishes it, and subjects who are called on to obey it. The superior may be supposed to act under the dictates of the animal faculties or under those of the moral sentiments. The former being selfish, whatever they desire is for selfish gratification. Hence laws instituted by a superior inspired by the animal powers would have for their leading object the individual advantage of the law-giver, with no systematic regard to the enjoyment or welfare of his subjects. The moral sentiments, on the other hand, are altogether generous, disinterested, and just; they delight in the happiness of others, and do not seek individual advantage as their supreme end. Laws instituted by a lawgiver inspired by them would have for their grand object the advantage and enjoyment of those who were required to yield obedience.

The story of William Tell will illustrate my meaning. Gessler, an Austrian governor of the canton of Uri, placed his hat upon a pole, and required the Swiss peasants to pay the same honours to it that were due to himself. The object of this requisition was obviously the gratification of the Austrian's self-esteem in witnessing the humiliation of the Swiss. It was framed without the least regard to their happiness, because such abject slavery could gratify no faculty in their minds, and could ameliorate no principle of their nature, but, on the contrary, was calculated to outrage every feeling of self-respect.

Before punishment for breaking a law can be justly

* See page 10.

inflicted, it seems reasonable that the people called on to obey it should not only possess the power of doing so, but should likewise be benefited by their obedience. It was certain that by the very constitution of their minds it was impossible for the Swiss to reverence the hat of the tyrant ; and if they had pretended to do so, they would have manifested only baseness and hypocrisy. The law requiring that respect was therefore unjust, and punishment for disobedience was pure tyranny and oppression. In punishing the Swiss, the governor employed destructiveness as a means of procuring gratification to his own self-esteem.

Let us imagine, on the other hand, a law promulgated by a sovereign whose sole motive was the happiness of his subjects, and that the edict was, *Thou shalt not steal*. If the lawgiver were placed far above the reach of theft by his subjects, and if respect to one another's rights were indispensable to the welfare of his people themselves, then it is obvious that their stealing or not stealing would be of no importance whatever to him, while it would be of the highest moment to themselves.

Let us suppose, then, that in order to prevent the evils which the subjects would bring upon themselves by stealing, he were to add as a penalty that every man who stole should be locked up and instructed in his duty until he became capable of abstaining from theft : the justice and benevolence of this sentence would be unquestionable, because it would prove advantageous both to society and to the offender. Suppose that the latter was born with a tendency to acquisitiveness and secretiveness, and was deficient in conscientiousness, and that when he committed the offence he really could not help stealing—still, there would be no cruelty and no injustice in locking him up and instructing him in moral duty until he learned to abstain from theft ; because, if this were not done, and if all men following his example were to steal, the human race, and he, as a member of it, would starve and become extinct.

The Creator's natural laws, so far as I have been able to perceive them, are instituted substantially on the latter principle : that is to say, there is no indication of the object of any of the arrangements of creation being to gratify an inferior feeling in the Creator Himself. No well-constituted mind, indeed, could conceive Him commanding beings

whom He called into existence, and whom He could annihilate in a moment, to do any act of homage which had reference merely to the acknowledgment of His authority, solely for His personal gratification, and without regard to their own welfare and enjoyment. We cannot, without absolute outrage to the moral sentiments and the intellect, imagine His doing anything analogous to the act of the Swiss governor—placing an emblem of His authority on high, and requiring His creatures to obey it, merely to gratify Himself by their homage, to their own dispragement and distress.

Accordingly, every natural law, so far as I can discover, appears instituted for the purpose of adding to the sum of enjoyment of the creatures who occupy the world. In regard to Man, the Divine pre-ordination of certain agreeable consequences from obedience to the natural laws, and of disagreeable consequences from their infringement, appears to be designed for his instruction and guidance, as the moral and intellectual administrator of this world. That there are cases of suffering, in the lots both of the inferior animals and of Man, which still present formidable difficulties in the way of reconciling the order of creation with our notions of benevolence and justice, I am far from denying; but I regard the human race as still only in the dawn of its existence, and I am disposed to refer the present apparent anomalies to our imperfect knowledge, and not to real inconsistencies in the Divine arrangements. One of the objects of the painful consequences attached to disobedience appears to be to arrest the offender in his departure from the laws, which departure, if permitted to proceed to its natural termination, would involve him in tenfold greater miseries. This arrangement greatly promotes the activity of the faculties; and active faculties being fountains of pleasure, the penalties themselves become benevolent and just. For example:—

Under one of the physical laws, all *organic* bodies are liable to combustion. Timber, coal, oils, and animal substances, when heated to a certain extent, catch fire and burn; and the question occurs, Is this quality, in so far as it affects Man, consistent with a benevolent purpose, or is it not? Let us look at the advantages attending it. By means of fire we obtain warmth in cold latitudes and light after sunset; it enables us to cook food, thereby rendering it more wholesome and savoury; and by fire we soften and

fuse metals. I need not go further; everyone will acknowledge that by the law under which organic bodies are liable to combustion countless benefits are conferred on the human race.

But the human body itself is organised, and is subject to this law; so that, if placed in a great fire, it is utterly dissipated in a few minutes. The effect of a less degree of heat is to disorganise the texture of the body. What mode, then, has the Creator followed to preserve men from the danger to which they are subjected by fire? He has caused their nerves to communicate sensations from heat, agreeable while the temperature is such as to benefit the body; slightly uneasy when it becomes so high as to be in some measure hurtful; positively painful when the heat approaches that degree at which it would seriously injure the organised system; and horribly agonising whenever it becomes so elevated as to destroy the organs.

The principle of all this is very obviously benevolent. Combustion bestows on us innumerable advantages; and when we place ourselves in *accordance* with the law intended to regulate our relation to it, we reap unmixed benefits and pleasure. But we are in danger from its excessive action; and so kind is the Creator, that He does not trust to the guardianship of our own cautiousness and intellect alone to protect us from infringement, but has established a monitor in every sentient nerve, whose admonitions increase in intensity through imperceptible gradations, exquisitely adjusted to the degrees of danger; till at last, in pressing circumstances, they urge in a voice so clamant as to excite the whole physical and mental energy of the victim to withdraw himself from the impending destruction.

The principle that the painful consequences attached by Divine ordination to infringement of the natural laws are founded in benevolence, even to the sufferer, is strongly elucidated in the case of the organic laws. When inflammation, for example, has seized any vital organ, if there were no pain there would be no intimation that an organic law had been infringed; the disease would proceed quietly in its invasions, and death would ensue without previous warning. The pain attending an acute disease warns the sufferer by the most forcible of all admonitions to return to obedience to the law which he has infringed.

In the case of a broken limb or a deep cut, the principle

is very obvious. The bone of a leg will re-unite if the broken edges be preserved in contact ; and the subsequent serviceable condition of the limb will depend on the degree of exactness with which these have been made to re-approach, and have been preserved in their natural position. Now, in the first place, the pain attending a broken limb gives a most peremptory intimation that an injury has been sustained ; secondly, it excites the patient most forcibly to do what is needful for its reparation ; and thirdly, after the healing process has commenced, the pain recurs with a degree of violence proportioned to the disturbance of the parts, and thus acts like a sentinel with a drawn sword, compelling the sufferer to avoid everything that may impede his recovery.

The point to which I request the reader's special attention is, that the power of the individual to avoid or not to avoid the infringement of the law in the particular instance which brings the painful consequences is not an indispensable circumstance in rendering the infliction benevolent and just. The infliction is approved of by the moral sentiments and the intellect, because the law, in its legitimate operation, is calculated for the advantage of the subject ; and because the suffering has for its object *to bring him back to obedience for his own welfare, or to terminate his sufferings when he has erred too widely to return.*

Let us now inquire whether the same principle prevails in regard to the infringement of the moral and intellectual laws. This investigation is attended with great difficulty ; and it may be best elucidated by attending, in the first place, to the liability of the lower animals to suffer for their actions.

The physical and organic laws affect the inferior creatures in the same manner as they do Man, so that nothing need be said on these points. The animals are endowed with propensities impelling them to act, and with a certain degree of intellect enabling them to perceive the consequences of their actions. These faculties prompt them to inflict punishment on one another for infringement of their rights, although they possess no sentiments pointing out the moral guilt of such conduct.

For example, dogs possess acquisitiveness, which gives them the sense of property : when one is in possession of a bone, and another attempts to steal it, this act instantly excites the combativeness and destructiveness of the proprietor of the bone, and he proceeds to worry the assailant.

Or a cock on a dunghill finds a rival intruding on his domain, and under the instinctive inspiration of combative-ness and offended self-esteem, he attacks him and drives him off. I call this inflicting suffering under the impulse of animal resentment. In these cases it is not supposed that the aggressors possess moral faculties, intimating that the trespass is wrong, or free-will, by which they could avoid it. I view them as inspired by their propensities, and as rushing blindly to gratification.

Nevertheless, in the effect which the aggression produces on the propensities of the animal assailed we perceive an arrangement instituted by the Creator for checking outrage and arresting its progress—in short, for executing substantial justice, without consciousness of this design on the part of those who bring it about.

Before the penalty inflicted could be viewed by Man as just in such cases, it would be necessary to perceive that it was instituted for the benefit of the aggressors themselves; and, in truth, this is the case. If all dogs neglected to seek bones, and dedicated themselves solely to stealing; and if cocks in general deserted their own domains, and gave themselves up only to felonious inroads on one another's territories, it is evident that the races of these animals would soon become extinct. It follows, also, that when the race perished every individual would lose his life. If, then, it is beneficial for the race, and also for the individual offender himself, in these instances, to be arrested in his progress, his chastisement is benevolent and just.

It is interesting to observe that various provisions, which do not strike us without reflection, have been made, under the animal law, for bringing about substantial justice. The lower animals make perfectly sure of punishing only the real offender; for he must be caught in the act, otherwise he is not visited by their resentment. In the next place, it appears to be the general law of animal nature that unless the offender has carried his inroad to an extreme extent, the punishment is relaxed the moment he desists: that is to say, the master of the bone or of the dunghill is generally satisfied with simple defence, and rarely abandons his treasure to pursue the offender for the sake of revenge.

Further, the animals in inflicting punishment make no inquiry into the *cause of the offence*. With them it affords no alleviation that the aggressor is himself in a state of the greatest destitution, or that his appetite is irresistible;

neither do they concern themselves about his fate after they have made him undergo the penalty. He may die of the wounds they have inflicted upon him, or of absolute starvation, before their eyes, without their enjoyment being in the least disturbed. This arises from their faculties consisting entirely of those propensities which regard only self. They are deficient in the faculties which trace causes and consequences, and in the moral sentiments, which desire, with a disinterested affection, the welfare of other beings.

Nevertheless, the punishment which they inflict is in itself just, and serves, as we have seen, a beneficial end. Let us now direct our attention to Man.

Man possesses animal propensities similar to those of the lower creatures, and, under their instigation, he too inflicts punishment on principles analogous to those under which they chastise. Indeed, it is curious to remark that until a very recent date the criminal laws, even of civilised nations, have been framed almost exclusively on the principle of animal resentment. A thief, for example, breaks into a dwelling-house and steals. The reflecting faculties are employed to discover the offender and evidence of the offence. Judges and juries assemble to determine whether an offence has been committed, and whether the evidence against the accused is sufficient; and if they find them to be so, the offender is ordered to be imprisoned, or to be sent into penal servitude. We are apt to imagine that there is something moral in the trial; but the sole object of it is to ascertain that a crime has been committed, and that the accused is the offender. The dog and the cock make equally sure of both points, because they never punish except when the individual is caught in the offence.

Guilt being ascertained, and the offender identified, the dog worries him, and then lets him go; while Man scourges his back or makes him mount the steps of a treadmill, and then turns him adrift. If the offender has been very presumptuous and pertinacious in his aggression, the dog sometimes, although rarely, throttles him outright; and Man, in similar circumstances, generally strangles him with a rope or cuts off his head. The dog, in his proceeding, makes no inquiry into the causes which led to the crime, or into the consequences to the offender of the punishment which he inflicts. In this also he is imitated by the human race. Man inflicts his vengeance with as little inquiry into the

causes which led to the offence, and, except when the sentence is capital, he turns the culprit adrift upon the world after he has undergone his punishment with as little concern about what shall next befall him as is shown by the canine prototype. The dog acts in this manner because he is inspired by animal propensities, and because higher faculties have been denied him. Man does so because he, too, has received animal faculties, and because, although he possesses, in addition to them, moral sentiments and reflecting intellect, he has not yet discovered the practical application of these to the subject of criminal legislation.

The animal punishment is not without advantage even in the case of Man, although it falls far short, in this respect, of what he might obtain by following the guidance of his moral sentiments and his enlightened intellect. Man as a mere animal could not exist in society unless some check were instituted against abuses of the propensities; and hence, animal vengeance, rude as it is, carries with it results beneficial even to the offender, except where it puts him to death—a degree of punishment which, as we have seen, the lower animals rarely inflict on each other of the same species. Unless the abuses of the animal propensities were checked, human society would be dissolved, and by that result the offenders themselves would suffer more grievous calamities than under any moderate form of animal castigation.

In so far as regards the lower creatures, the world is arranged with a wise relation to the faculties bestowed on them. Accordingly, animal resentment is really effective in their case. In consequence of their not possessing reflecting faculties they are incapable of forming deep or extensive schemes for combined aggression, and they are not led to speculate on the chances of escaping detection in their misdeeds. Their offences are limited to casual overflows of their propensities when excited by momentary temptation, which are checked by counter-overflows of other propensities momentarily excited in the animals aggrieved.

In regard to Man, however, the world has been arranged on the principle of the supremacy of the moral sentiments and the intellect, and, in consequence, animal retribution is not equally effectual in his case. A human offender employs his intellect in devising means to escape detection or to defend himself against punishment; and hence,

although he sees penal infliction staring him in the face, his hope deludes him into the belief that he may escape it. Further, if the real cause of human offences be excessive activity of the animal propensities, it follows that mere punishment cannot put a stop to crime; because it *overlooks the cause, and leaves it to operate with unabated energy after the infliction has been endured.* The history of the world, accordingly, presents us with a succession of crimes and punishments, and at present the series appears to be as far removed from a termination as at any previous period in the annals of the race.

If the world in regard to Man has been arranged on the principle of the supremacy of the moral sentiments and the intellect, we might expect better success were *moral retribution*, of which I now proceed to treat, resorted to.

CHAPTER XV.

MORAL RETRIBUTION.

THE motive which prompts the dog to worry and the cock to peck and spur his assailant is, as I have said, mere animal resentment. His propensities are disagreeably affected, and combativeness and destructiveness instinctively start into activity to repel the aggression. The animal resentment of Man is precisely analogous. A thief is odious to acquisitiveness, because he robs it of its treasures; a murderer is offensive to our feelings, because he extinguishes life. And these faculties being offended, combativeness and destructiveness rush to their aid in Man, while under the animal dominion, as instinctively as in the dog, and punish the offender on principles, and in a way, exactly similar.

The case is different with the proper human faculties. Benevolence contemplating theft and murder disapproves of them, because they are hostile to its inherent constitution, and because they occasion calamities to those who are its objects, and misery to the perpetrators themselves. Conscientiousness is pained by such deeds, because its very nature revolts at every infringement of right, and because justice is essential to the welfare of mankind. Veneration is offended at reckless insult and indignity, because its desire is to respect the intelligent creatures of the God whom it adores, believing that they are all the objects of His love.

In short, all the moral sentiments ardently and instinctively desire that crime should be brought to a close, and that its recurrence may be prevented, because it is in direct opposition to their very nature. And this desire, on their part, *is not dependent on the power of the criminal to offend or to forbear.* Benevolence grieves at death inflicted by a madman, and calls aloud that it should be prevented; conscientiousness disavows theft, although committed by an idiot, and requires that he should be restrained; while veneration recoils at the irreverences even of the frenzied. The fact that the offenders are involuntary agents, incapable of restraining their propensities, does not alter the aversion of the moral faculties to their actions. The reasons of this are obvious. *First,* these faculties hate evil because it is

contrary to their nature, from whatever source it springs ; and *secondly*, the circumstance that the aggressor is a necessary agent does not diminish the calamity inflicted on the sufferer. It is as painful to be killed by a madman as by a deliberate assassin ; and it is as destructive to property to be robbed by a cunning idiot as by an acute and practised thief.

We perceive, therefore, as the first feature of the moral and intellectual law, that the higher sentiments, absolutely and in all circumstances, declare against offences, and demand imperatively that they shall be brought to an end.

There is a great difference, however, between the means which *they* suggest for accomplishing this object and those prompted by the propensities. The latter, as I have said, blindly inflict vengeance without the slightest regard to the *causes* which led to the crime, or to the *consequences* of the punishment. They seize the aggressor, and worry, bite, scourge, imprison, or strangle him ; and there their operations begin and terminate.

The moral and intellectual faculties, on the other hand, embrace even the criminal himself within the range of their sympathies. Benevolence desires to render *him* *virtuous*, and thereby happy, as well as to protect his victim. Veneration desires that he should be treated as a man ; and conscientiousness cannot acquiesce in any administration towards him that does not tend to remove the motives of his misconduct and to prevent their recurrence. The first step, then, which the moral and intellectual faculties combine in demanding is a full exposition of *the causes of the offence, and of the consequences of the mode of treatment proposed*.

The leading fact which arrests our attention in this inquiry is that *every crime proceeds from an abuse of some faculty or other* ; and the question immediately arises, Whence originates the tendency to abuse ? We answer—From three sources : *first*, from particular faculties being too active ; *secondly*, from great excitement produced by external causes ; and *thirdly*, from ignorance of what are uses and what are abuses of the faculties.

The moral and intellectual powers next demand, What is the cause of particular faculties being too active in individuals ? In answer, I point to the law of hereditary descent, by which the faculties most energetic in the parents determine those which shall predominate in the child. Intellect then infers that, according to this view, certain individuals are unfortunate at birth in having received

from their parents powers so ill-proportioned that abuse of some of them is almost an inevitable consequence if the individuals are left to the sole guidance of their own propensities under the influence of temptation.

In the next place, undue excitement may arise from the individual being pressed by want of food, stimulated by intoxicating liquors, seduced by evil example, and from a variety of other unfavourable influences.

And thirdly, abuses may arise from sheer want of knowledge concerning the constitution of the mind, and its relations to external objects. The burning of old women as witches was a crime perpetrated under the forms of law ; and persecution for opinion is a crime obviously referable, like the other, to this source.

I have no hesitation in saying that if, in the case of every offender, the three sources of crime here enumerated had been investigated, reported on, and published, the belief would have become general and irresistible that the individual had been the victim of his nature and his external condition, and penitentiaries would have been resorted to as the best means of abating crime and of satisfying the moral feelings of the community. The public err through ignorance, and knowledge only is needed to ensure their going into the right path.

Moreover, intellect perceives, and the moral sentiments acknowledge, that these causes exist *independently of the will of the offender*. The criminal, for example, is not the cause of the unfortunate preponderance of the animal tendencies in his brain ; neither is he the creator of the external circumstances which lead his propensities into abuse, or of the ignorance in which he is involved. Nevertheless, the moral and intellectual faculties of the indifferent spectator of his condition do not, on this account, admit that, either for his own sake or for that of society, he should be permitted to proceed in an unrestricted course of crime. They absolutely insist on arresting his progress, and their first question is, How may this best be done ? Intellect answers, *By removing the causes which produce the offences.*

The first cause—the great preponderance of the animal propensities—cannot, by any means yet known, be summarily removed. Intellect, therefore, points out an alternative—that of supplying, by moral and physical restraint, the control which, in a brain better constituted, is afforded by the moral and intellectual faculties : in short, of placing the

offender under such a degree of effective control as absolutely to prevent the abuse of his faculties. Benevolence acknowledges this proceeding to be kind, veneration to be respectful, and conscientiousness to be just at once to the offender himself and to society; and intellect perceives that, whenever it is adopted, it will form an important step towards preventing a repetition of the crime.

The second cause—great excitement from without—may be removed by withdrawing the individual from the influence of the unfavourable external circumstances to which he is exposed. The very restraint and control which serve to effect the first object will directly tend to accomplish the second at the same time.

The third cause—namely, ignorance—may be removed by conveying instruction to the intellectual, and training to the moral and religious, powers.

If these principles are sound, the measures now recommended, when viewed in all their consequences, should be not only the most just and benevolent, but at the same time *the most advantageous that can be adopted*. Let us contrast their results with those of the animal method.

Under the animal system, as we have already seen, no measures except the excitement of terror are taken to *prevent* the commission of crime. But many men become criminals in consequence of a constitutional deficiency in prudence, and of a predominance of the daring elements in their minds. The danger operates as a challenge, and stimulates them to defy the threatened inflictions. Under the moral plan, as soon as a tendency to abuse the faculties should appear in any individual, means of prevention would be resorted to, because the sentiments could not otherwise be satisfied.

Under the animal system no inquiry is made into the future proceedings of the offender, and he is turned loose upon society under the unabated influence of all the causes which led to his infringement of the law; and, as effects never cease while their causes continue to operate, he repeats his offence, and becomes the object of a new animal infliction. Under the moral system the causes would be removed, and the evil effects would cease.

Under the animal system the propensities of the offender and of society are maintained in habitual excitement; for the punishment proceeds from the animal faculties, and is likewise addressed to them. Flogging, for instance, proceeds from destructiveness, and is addressed solely to

sensation and fear. The treadmill springs from destructiveness in a milder form ; and, as its sole object is to cause annoyance to the offender, it is obviously addressed only to cautiousness and to his selfish feelings. Hanging and decapitation are administered as terrors to the propensities of persons criminally disposed. These punishments, again—especially the latter—are calculated to gratify the animal faculties, and none else, in the spectators who witness them. The execution of a criminal obviously interests and excites destructiveness, cautiousness, and self-esteem in the beholder, and nothing can be less fitted naturally than such exhibitions to satisfy benevolence, veneration, and conscientiousness. Under the moral system, on the other hand, the faculties exercised and addressed in restraining and instructing the offender are, as exclusively as possible, the human powers. The propensities are employed merely as the servants of the moral sentiments in accomplishing their beneficent purpose, and benevolence is as actively engaged in behalf of the offender as of society at large. The whole influence of the proceeding is ameliorating and elevating.

The highest and the most important object of this exposition of the principles of punishment under the natural laws remains to be stated.

We are all liable to abuse our faculties ; and the inquiry is interesting, What, in our own case, are the causes of the infringement of the moral law ? The offences which we daily commit are neither more nor less than minor degrees of abuse of the same faculties from which crimes arise. For example, if in private life we backbite or slander our neighbour, we commit an abuse of self-esteem and destructiveness, which, if increased merely in intensity without at all changing their nature, might end, as in Ireland, in maiming his cattle, or, as in Spain and Italy, in murdering him outright. If, in any commercial transaction, we deliberately give false representations as to any article we have for sale, or over-charge it in price, this is just a minor abuse of secretiveness and acquisitiveness acting in absence of the moral sentiments ; of which abuse, pocket-picking and stealing are merely higher degrees. I need not carry the parallel further. It is so obvious that every offence against the moral law is an abuse of some faculty or other, and that great crimes are merely great abuses, and smaller offences more slight abuses, that everyone must perceive the fact to be so.

Reverting to what I observed in regard to crime, I repeat

that every infringement of the moral law, the smallest as well as the greatest, is condemned by the moral sentiments and the intellect, just because it is opposed to their nature, and because they desire absolutely to bring all abuses to an end, from whatever source they may spring, whether they be voluntary or involuntary.

In the present practice of society, the manifestation of animal resentment is the chief method of dealing with the minor abuses of our faculties, as well as with the higher. If one gentleman insults another, the offended person makes no inquiry into the state of mind and the other causes that produced the insult, but proceeds to knock him on the head, to challenge and afterwards to shoot him, or to prosecute him in a court of law, and to inflict pain by depriving him of money. These are the common methods by which men inflict animal retribution on each other, and in their essential character they do not much differ from those followed by the lower creatures.

I do not say that these proceedings are absolutely without beneficial effect. The animal faculties are selfish, and these inroads upon their enjoyment have undoubtedly a tendency to check them. It is painful to a gentleman to be knocked down or to be shot; and, in consequence, many men of low principles, who would not be restrained by the dictates of their own feelings from insulting their neighbours, are induced to modify their conduct by the fear of these forms of resentment; but here the benefit ends. The infliction of chastisement gratifies only the animal faculties of the injured party, and it is addressed exclusively to the animal part of the offender's mind. Habitual morality, however, cannot exist without supreme activity of the moral sentiments; and the whole code of animal law and animal punishment does exceedingly little to establish this as a permanent condition of mind.

Under the moral and intellectual law, everything is different. The intellectual faculties inquire into the causes of abuses, and the moral sentiments desire to remove them with kindness, and with respect even for the offender himself. If one person insult another, the intellect perceives that he must do so, *first*, from extreme predominance of combativeness, destructiveness, and self-esteem, whence arises an impulsive tendency to impertinence: just as some ill-natured dogs and horses have a tendency to bite without provocation; or *secondly*, from excessive external stimulus; that is to say,

from some aggression committed on himself ; or *thirdly*, from ignorance : that is, from erroneously supposing unreal motives and intentions in the person whom he insults. If one man cheat another, intellect perceives that he can do so only because acquisitiveness and secretiveness predominate in him over conscientiousness ; or because the external temptation to cheat is too powerful for his faculties to resist ; or because he does not know that cheating is as fatal to his own interest as it is injurious to that of his victim. In short, no abuse of the animal faculties can be committed that may not be traced to these or to similar causes.

But intellect and the moral sentiments desire to remove the *causes*, as the most effectual way of putting an end to the effects, and their method is one congenial to their own constitution. If a man be by nature irritable, and prone to injure everyone with whom he comes into contact, they desire to remove most sedulously every influence that may tend to exasperate his propensities, and also to surround him with a pure moral and intellectual atmosphere. If he be exposed to temptation, they desire to withdraw it ; if he be misinformed, ignorant, or deceived, they desire to instruct him, or to give him correct information. Although we may have suffered injury from another, if we perceive the causes from which it has proceeded to be really such as I have now explained, and if we comprehend and believe in the supremacy of the moral sentiments, it will be impossible for us to prefer the method of redress by animal resentment.

The question naturally presents itself, What is the distinction between right and wrong under this system ? If offences proceed from unfortunate development of brain, not fashioned by the individual himself—from external temptations, which overtake him unsolicited—or from want of knowledge which he never had it in his power to acquire, how are the distinctions between right and wrong, merit and demerit, to be maintained ? The answer is simple.

The *natural distinction between right and wrong*, so far as Man is concerned, is based on the constitution of his faculties. The act of wantonly killing another is wrong, because it is in direct opposition to the dictates of benevolence ; the act of appropriating to ourselves effects belonging to another is wrong, because it is distinctly denounced by conscientiousness ; and so with all other misdeeds. The *authority* of the moral law, in forbidding offences, is found in our innate consciousness that the moral sentiments are of a higher order

than the propensities, and are appointed to rule them. The external sanction of the moral law depends on the whole arrangements of creation being constituted to enforce its dictates. If benevolence and conscientiousness condemn murder, and if all the other faculties of the mind and the external order of things harmonise with their dictates, and combine to punish the offender, the foundation and the sanction of the moral law appear abundantly strong.

It has been objected that, in Tartary, to steal from strangers is honourable ; but Dr. Thomas Brown has well answered this objection. There are other principles in the mind besides benevolence, veneration, and conscientiousness ; and it is possible to misinform the intellect, and thereby to misdirect equally the propensities and the sentiments. The Tartars are taught to believe that all men beyond their own tribes are their enemies, and that they should rob and murder them if they could ; and, of course, so long as this intellectual conviction lasts, strangers become the objects of their animal resentment. Every foreigner is, in their eyes, a criminal, clearly convicted of deliberate purpose to rob and murder them. In England, under Lord Ellenborough's Act,* when men are convicted of acting with this *intention*, they are delivered over to the hangman to be executed ; and we might as well maintain, as a general proposition, that the English are as fond of hanging one another as that the Tartars approve of robbery and murder. Strangers whom the Tartars maltreat in this manner actually stand convicted in their minds of an intention of using them in the same way if they could. The real method of arriving at a correct view of the question is to suppose the conviction complete in a Tartar's mind that other men love him, and would make him an object of their benevolence, and then to ask him whether he approves of robbing and murdering a benefactor. There is no instance of human nature, in a state of sanity, regarding such a deed as virtuous. The moral law, therefore, when cleared of other principles that may act along with it, but are not part of it, is obviously universal and inflexible in its dictates.†

The views contained in this chapter were printed and distributed among a few friends in 1827, and I was favoured

* Lord Ellenborough, Chief Justice of the Court of King's Bench (1750-1818).

† This subject is more fully treated of in the author's work on "Moral Philosophy."

by them with several remarks. Some of these appear to merit a reply.

It is objected that, according to the moral system of treating offenders, punishment would be abrogated and crime encouraged.

I respectfully answer that if this system be right in itself, and suited to the nature of Man, it will carry in itself all the punishment that will be needed, or that can serve any beneficial end. I believe that, to a man whose mind consists chiefly of animal propensities and intellect, confinement, compulsory labour, and the enforcement of moral conduct will be highly disagreeable, and that this is the punishment which the Creator designed should attend that unfortunate combination of mental qualities. It is analogous to the pain of a wound ; the object of which is to induce the patient to avoid injuring himself again. The irksomeness and suffering inseparable from confinement and forced labour are inducements to a criminal to avoid infringements of the moral law ; and when he perceives that they arise from the connection established by the Creator between crime and the most humane means of restraining it, he will learn to submit to the infliction without those rebellious feelings that are generally excited by pure animal retribution.

It appears to me that the call for more suffering than would accompany the moral method of treatment proceeds to a great extent from the untamed barbarism of our minds ; just as it was the savageness of our ancestors that led them to regard torture and burning as necessary in their administration of criminal justice. In proportion as the higher sentiments shall gain ascendancy among men, severity will be less in demand, and its inutility will be more generally perceived. The Americans, in their penitentiaries, have set a good example to Europe in regard to criminal legislation. Their views still admit of improvement, but they have entered on the path by which success is to be attained. Their countryman, Dr. Caldwell, has offered them excellent counsel, which I hope they will appreciate and follow.

Another objection frequently stated is—that if we render prisons comfortable as schools of reform, we shall induce the lower members of the people to commit crimes in order to obtain the enjoyments and advantages which they afford. This notion proceeds from a mistaken estimate of the feelings of the people. However poor and uncultivated, they possess the same faculties as their superiors, and they regard crime

as degrading, even if the criminal were lodged in a palace. In this view the crust of bread won by honest labour is sweeter than luxuries acquired by turpitude and fraud. These feelings will ever preserve them from seeking bodily comfort at the expense of integrity and independence.

During the last Irish famine thousands of the destitute died from the effects of starvation ; but the jails were not besieged by voluntary criminals, urging their right to be admitted and fed in consequence of having committed robbery and murder. Moreover, there is something seriously wrong in the administration of a country so rich and so intelligent as England, when a class exists which can be supposed to be tempted to crime by the imaginary comforts of a well-ordered prison ; and the proper course of action is to improve the condition of the poor, and not to degrade that of criminals.

Another objection is, that the views now advocated, even supposing them to be true, are utopian, and cannot be carried into effect in the present condition of society. I deny the first branch of this objection ; but I admit the second to be well-founded. No system of morals which is true can be utopian—this term being understood to mean visionary and impracticable. But a true system may not be reducible to practice at its first announcement by a people who do not know one jot of its principles, and whose guides sedulously divert their minds from studying it. Christianity itself has not yet been generally practised ; but does any rational man on this account denounce it as utopian and worthless ? It would be folly to expect judges and juries to abandon the existing practice of criminal jurisprudence, and to adopt that which is here recommended, before they, and the society for whom they act, understand and approve of the new views. No one who bears in mind by what slow and laborious steps truth makes its way, and how long a period is necessary before it can develop itself in practice, will expect any new system to triumph in the age in which it was first promulgated.

I have frequently repeated in this work that, by the moral law, we cannot enjoy the full fruits of our own intelligence and virtue until our neighbours have been rendered as wise and virtuous as ourselves. No reasonable man, therefore, can expect to see the principles expounded in this work, although true, generally diffused and adopted in society until the natural means of communicating a knowledge

of them, and producing a general conviction of their truth and utility, shall have been perseveringly employed for a period sufficient to accomplish this end. In the meantime, the established practices of society must be supported, if not respected ; and he is no promoter of the real progress of mankind who, the moment after he has sown the seeds of truth, and without allowing summer and autumn to bring the product to maturity, would attempt to gather the fruit. The rational philanthropist will zealously teach his views, and introduce them into practice as favourable opportunities occur, not doubting that he will sooner accomplish his object thus, than by making premature attempts to realise them, which must inevitably end in disappointment.

Already some progress is perceptible in the legislative treatment of offenders against the laws. The transportation system, in regard to male convicts, has been abandoned ; and in prison discipline we are promised the adoption of several excellent suggestions, published by Captain Maconochie, in his instructive elucidations of "The Mark System," and in harmony with the principles of this work.*

* In some of my other publications I have entered more into detail on the subject of criminal legislation and prison discipline. See "Moral Philosophy," Lectures xi., xii., and xiii.; "Notes on the United States of North America," i., 104, 171, 182, 196, 203, 204, 313; ii., 326, 369; iii., 115; "Thoughts on Capital Punishment," and "Remarks on the Principles of Criminal Legislation and the Practice of Prison Discipline." The leading ideas expounded in these Works, and in the foregoing section, were ably and eloquently maintained by the late Dr. Charles Caldwell, Professor of the Institutes of Medicine in the University of Lexington, Kentucky, in his "New Views of Penitentiary Discipline, and Moral Education and Reformation of Criminals," published at Philadelphia in 1829, and reprinted in the "Phrenological Journal," Vol. VIII., pp. 385, 493. Mr. Simpson also has treated the subject with great ability in the same Journal, Vol. IX., p. 481, and in the Appendix to his work on "The Necessity of Popular Education"—a work in which he has expounded and applied many principles of the present treatise with much acuteness and felicity of illustration. In 1841 Mr. M. B. Sampson published a valuable exposition of the same principles, under the title of "Criminal Jurisprudence considered in relation to Mental Organisation," several editions of which have been printed; and Captain Maconochie's more recent treatise on "The Mark System" contains expositions of specific arrangements by means of which the principles here advocated may be carried into practical effect.—See also the APPENDIX, Nos. II. and III.

CHAPTER XVI.

THE NATURAL LAWS IN COMBINATION.

MUCH confusion exists in the minds of many persons in regard to what are called accidents and misfortunes. If a great storm arises at sea, and if a ship is caught near a lee-shore, and is driven by the normal action of the winds and the waves on a rock, or is dashed to pieces, this is called a melancholy accident or a great misfortune, but few men think of calling in the action of a special Providence to account for it. If, however, ten persons out of a hundred in the ship are floated ashore on pieces of the wreck, while the rest are drowned, the escape of the few is called a merciful, perhaps a miraculous, interposition of Providence in their behalf ; and the survivors return solemn thanks to God for their preservation. The feeling of gratitude for their escape naturally rises in their minds, and in returning thanks to God for prolonged life in such circumstances, most men obviously obey an instinct of their nature.

The emotion is not wrong ; but our erroneous religious education, which has dissevered the sentiment of veneration from events occurring under the ordinary course of God's providence, gives it in the eye of reason an appearance of inconsistency which does not really belong to it. An unprotected girl, whose parents and whole property have perished in the wreck, and who in consequence is left desolate and poor, might be prompted to murmur at the event, and to regard the ways of Providence as at least inscrutable, if not partial. She might say that if God saved the ten, He destroyed the ninety ; and that if He saved the stay of one, He removed the support of many more.

Reason proclaims that, in this event, God's providence was manifested in accordance with established laws ; and under a proper system of religious education we should be trained to venerate it in all its evolutions, to submit with resignation when we have been unable to place ourselves in accordance with the Divine laws, and to rejoice in gratitude at all times when we receive benefits from their influence.

The following exposition of the philosophy of accidents

appears to be able and sound. "There is a prejudice," says Mr. Brown Galloway, "in the minds of many men against the admission of a Providence superintending unforeseen accidents or the coincidences of events. We may hope partly to remove it by explaining what accidents and coincidences are. Now, an accident, properly so called, is an event which forms no part of some certain train of causes and effects designed or contemplated by us, but enters into it from without, and affects its future progress either by impeding or by furthering it. When it obstructs or impedes, it is called an accident; but when it is favourable, it is more generally named a coincidence. The majority of men, looking no further than that train of causes and effects which they are engaged about, consider accidents as events altogether without causes. But a thinking man will readily perceive that the accidental event is part of another train of causes and effects, which impinges upon the train he was contemplating."

"There are innumerable co-existent trains of causes and effects going on in the world. These, though they have distinct and independent courses, yet are frequently meeting, uniting, or crossing one another; so that, if we may be allowed the expression, they are wrought together in a sort of network. Accidents are truly the meetings or crossings of two or more trains of causes and effects, and are consequently of much importance in the Divine economy; for they are thus the knots or nexuses which unite the whole system of events together. And shall we suppose that God, who has ordered the separate trains of causes and effects, has not contemplated and designed their nexuses, except in those few cases where human wisdom has foreseen? Impossible! History abounds with instances of the great importance of those nexuses, and common life affords many more."*

These remarks apply chiefly to the combined action of the physical laws; and I proceed to adduce instances of the combined action of the organic and the moral, and also of the moral and the physical laws.

An example of the combined operation of the natural

* "Philosophy and Religion, with their Mutual Bearings," by William Brown Galloway, A.M., p. 222. London: Smith, Elder and Co., 1837.

laws was afforded by the great fires which occurred in Edinburgh in November, 1824, when the Parliament Square and a part of the High Street were consumed. That calamity may be viewed in the following light :—The Creator constituted England and Scotland with such qualities, and placed them in such relationship, that the inhabitants of both kingdoms would be most happy in pursuing their separate vocations, and in acting towards each other, under the supremacy of the moral sentiments. We have lived to see this practised, and to reap the reward.

But the ancestors of the two nations did not believe in the moral government of the world, and they preferred to act according to the suggestions of the propensities : that is to say, they waged furious wars and committed wasting devastations on each other's properties and lives. It is obvious from history that the two nations were equally ferocious, and delighted equally in each other's calamities. This was clearly a violent infringement of the moral law ; and one effect of it was to render the possession of a stronghold an object of paramount importance.

The hill on which the Old Town of Edinburgh is built was naturally surrounded by marshes, and presented a perpendicular front to the west, capable of being crowned with a castle. It was appropriated, and the metropolis of Scotland was founded there, obviously under the inspiration of the animal and intellectual faculties. It was fenced round with ramparts, built to exclude the fierce warriors who then inhabited the country lying south of the Tweed, and also to protect the inhabitants from the feudal banditti who infested their own soil. The space within the walls, however, was limited and narrow ; the attractions to the spot were numerous ; and to make the most of it, our ancestors erected the enormous masses of high and crowded buildings which composed the High Street and the wynds or alleys on its two sides. These abodes, moreover, were constructed, to a great extent, of timber ; for not only the joists and floors, but the partitions between the rooms, were made of massive wood.

Our ancestors did all this in the perfect knowledge of the physical law that ignited wood not only is consumed itself, but envelopes in inevitable destruction every combustible object within its influence. Further, their successors, even when the necessity for close building had ceased, persevered in the original error ; and, though well knowing that every

year added to the age of these fabrics increased their liability to burn, they not only allowed them to be occupied as shops filled with spirituous liquors and other highly inflammable materials, but let out the upper floors to persons of the lowest and most profligate class—introducing thereby into the heart of this magazine of combustibles the most reckless and immoral of mankind.

The consummation was reached in two tremendous fires in November, 1824 (the one originating in a whisky-cellar and the other in a garret), which consumed the Parliament Square and a portion of the High Street, destroying property to the value of many thousands of pounds, and spreading misery and ruin over a considerable part of the population of the city. Wonder, consternation, and awe were forcibly excited at the vastness of the calamity; and in the sermons that were preached, and the dissertations that were written upon it, much was said of the inscrutable ways of Providence, which sent such visitations on the people, enveloping the innocent and the guilty in one common whirlwind of ruin.

According to the exposition of the ways of Providence which I have ventured to give, there was nothing wonderful, nothing vengeful, nothing arbitrary, in the whole occurrence. The only reason for surprise was that it did not take place generations before. The necessity for these fabrics originated in gross violations of the moral law; they were constructed in contempt of the physical law; and latterly the moral law was set at defiance, by placing in them inhabitants abandoned to the worst habits of recklessness and intoxication. The Creator had bestowed on men faculties to perceive all this, and to avoid the calamity, whenever they chose to exert them; and the destruction that ensued was the punishment of following the propensities in preference to the dictates of intellect and morality. The object of the destruction, as a natural event, was to lead men to avoid repetition of the offences; but the principles of the Divine government are not yet comprehended. Acquisitiveness * whispers that more money may be made of houses consisting of five or

* It should be noted, however, that these lofty tenements were in the first instance a necessity of the time. When the city wall prevented the extension of the city *outwards*, its extension *upwards* was the only alternative left to the inhabitants. Nevertheless, the remarks in the text are undoubtedly applicable to later times.—ED., 1893.

six floors under one roof than of houses consisting of only two or three ; and erections the very counterparts of the former have since been reared on the spot where the others stood, and, sooner or later, they also will be overtaken by the natural laws, which never slumber nor sleep.

The true method of arriving at a sound view of calamities of this kind is to direct our attention, in the first instance, to the law of Nature from the operation of which they have originated ; then to find out the uses and advantages of that law, when observed ; and to discover whether or not the evils under consideration have arisen from violation of it. In the present instance, we should never lose sight of the fact that the houses in question stood erect, and the furniture in safety, by the very same law of gravitation which made them topple to the foundation when it was infringed ; and that mankind enjoy all the benefits which result from the combustibility of timber as fuel by the very same law that makes it, when unduly ignited, the cause of destructive conflagration.

This instance affords a striking illustration of the manner in which the physical and the organic laws are constituted in harmony with, and in subserviency to, the moral law. The motive * which led to the construction of the houses in the Old Town of Edinburgh (with the deprivation of free air and light, and the liability to combustion that attended them) is found in the excessive predominance of combative-ness, destructiveness, self-esteem, and acquisitiveness in our ancestors. Although the ancient personages who erected these monuments of animal supremacy had no conception that in doing so they were laying the foundations of a severe punishment to themselves and their posterity, yet, when we compare the comforts and advantages that would have accompanied dwellings constructed under the inspiration of benevolence, ideality, and enlightened intellect with the contaminating, debasing, and dangerous effects of the actual structures, we perceive clearly that our ancestors were really the instruments of chastising their own transgressions, and of transmitting that chastisement to their posterity so long as the animal supremacy shall be prolonged.

Another example may be given. Men, by uniting under one leader, may, in virtue of the social law, acquire great

* But see note on page 204.

advantages which singly they could not attain. The condition under which the benefits of that law are permitted is, that the leader shall know and obey the natural laws connected with his enterprise. If he neglect these, then the same principle which gives the social body the benefit of his observing them involves that body in the natural consequences of his infringing them ; and this is just, because, under the natural law, the leader must necessarily be chosen by his followers, and they are responsible for not attending to his natural qualities.

Some illustrations of the consequences of neglecting this law may be stated, in which the mixed operation of the physical and moral laws will appear.

During the last French war, a squadron of English ships was sent to the Baltic with military stores, and, in returning home by the North Sea, they were beset for two or three days by a thick fog. It was about the middle of December, and no correct knowledge of their exact situation was possessed. Some of the commanders proposed lying to all night and proceeding only during day, to avoid running ashore unawares. The commodore was exceedingly attached to his wife and family, and after stating his determination to pass Christmas with them in England, if possible, ordered that the ships should prosecute their voyage. The very same night they all struck on a sand-bank off the coast of Holland ; two ships of the line were dashed to pieces, and every man on board perished. The third ship, drawing less water, was forced over the bank by the waves and stranded on the beach ; the crew were saved, but were led to a captivity of many years' duration.

These vessels were destroyed under the physical laws ; but this calamity owed its origin to the predominance of the animal over the moral and the intellectual faculties in the commodore. The gratification which he sought to obtain was individual and selfish ; and if his benevolence, veneration, conscientiousness, and intellect had been as alert as were his domestic affections, and if they had carried as forcibly home to his mind the welfare of the men under his charge as that of his own family—nay, if these faculties had been sufficiently alive to see the danger to which he exposed even his own life and the happiness of his wife and children—he never could have followed the precipitate course which consigned himself and so many brave men to a watery grave.

Some years ago the *Ogle Castle*, East Indiaman, was offered a pilot when coming up the Channel; but the captain refused assistance, professing his own skill to be sufficient. In a few hours the ship ran aground on a sand-bank, and every human being on board perished. This accident also arose from physical causes; but their unfavourable operation sprang from self-esteem, pretending to knowledge which the intellect did not possess; and as it is only by employing the latter that obedience can be yielded to the physical laws, the destruction of the ship was indirectly the consequence of the infringement of the moral and intellectual laws.

An old sailor whom I met on the Queensferry passage told me that he had been nearly fifty years at sea, and that he was once in a fifty-gun ship in the West Indies. The captain, he said, was "a fine man;" he knew the climate, and foresaw the coming of a hurricane by the natural signs. On one occasion, in particular, he struck the topmasts, lowered the yards, lashed the guns, and made each man supply himself with food for thirty-six hours; and scarcely was this done when the hurricane came on. The ship lay for four hours on her beam-ends in the water, but all was prepared for; the men were kept in vigour during the storm, and fit for every exertion; the ship at last righted, suffered little damage, and proceeded on her voyage. The fleet which she convoyed was dispersed, and a great number of the ships foundered. Here we see the benefits accruing from the supremacy of the moral and the intellectual faculties, and discover to what a surprising extent these afford a guarantee against even the fury of the ocean in its highest state of agitation.

A striking example of the kind of protection given by high moral and intellectual qualities, even amidst the most desperate physical circumstances, is furnished by the following letter, written by the late Admiral Lord Exmouth to a friend: "Why do you ask me to relate the wreck of the *Dutton*? Susan (Lady Exmouth) and I were driving to a dinner-party at Plymouth, when we saw crowds running to the Hoe; and learning it was a wreck, I left the carriage to take her on, and joined the crowd. I saw the loss of the whole five or six hundred men was inevitable without somebody to direct them, for the last officer was pulled on shore as I reached the surf. I urged their return, which was refused; upon which I made the rope fast to myself,

and was hauled through the surf on board, established order, and did not leave her until every soul was saved but the boatswain, who would not go before me. I got safe, and so did he, and the ship went all to pieces." This was noble conduct, and it shows how high moral and intellectual energy, by obeying the physical laws, may find safety even in circumstances that appear to feebler minds to exclude all possibility of escape.

Indeed, there is reason to believe that the human intellect will, in time, be able, by means of science and observation, to foresee approaching storms, and thus to obtain protection against their effects.* The utility of the marine barometer, or the sympiesometer,† in indicating approaching storms, is strikingly shown by the following extract from the "Edinburgh Philosophical Journal" :—

"The correspondent (Mr. Stevenson, civil engineer) to whom we are indebted for the notice regarding the Scotch fisheries inserted in this number, informs us that having occasion, towards the conclusion of his voyage in the beginning of September last, to visit the Isle of Man, he beheld the interesting spectacle of about three hundred large fishing-boats, each from fifteen to twenty tons' burden, leaving their various harbours at that island on an apparently fine afternoon, and standing directly out to sea, with the intention of prosecuting the fishery under night. He at the same time remarked that both the common marine barometer and Adie's sympiesometer, which were in the cabin of his vessel, indicated an approaching change of weather, the mercury falling to 29.5 inches.

"It became painful, therefore, to witness the scene : more than a thousand industrious fishermen, lulled to security by the fineness of the day, scattering their little barks over the face of the ocean, and thus rushing forward to imminent danger or probable destruction. At sunset, accordingly, the sky became cloudy and threatening, and in the course of the night it blew a very hard gale, which afterwards continued for three days successively. This gale completely dispersed the fleet of boats, and it was not without the utmost difficulty that many of them reached the various

* This prediction has now, to a great extent, been realised in the publication of the weather forecasts of the Meteorological Department. Ed., 1893.

† An instrument for measuring the pressure of the atmosphere.

creeks of the island. It is believed no lives were lost on this occasion ; but the boats were damaged, much tackle was destroyed, and the men were unnecessarily exposed to danger and fatigue.

“ During the same storm, it may be remarked, thirteen vessels were either totally lost or stranded between the Isle of Anglesey and St. Bee’s Head, in Lancashire. Mr. Stevenson remarks how much it is to be regretted that the barometer is so little in use in the mercantile marine of Great Britain, compared with the trading vessels of Holland ; and observes, that though the common marine barometer is perhaps too cumbersome for the ordinary run of fishing and coasting vessels, yet Adie’s sympiesometer is so extremely portable that it may be carried even in a Manx boat. Each lot of such vessels has a commodore, under whose orders the fleet sails ; it would therefore be a most desirable thing that a sympiesometer should be attached to each commodore’s boat, from which a preconcerted signal of an expected gale or change of weather, as indicated by the sympiesometer, could easily be given.”*

Dr. Neil Arnott, in mentioning the great utility of the marine barometer, states that he himself was “ one of a numerous crew who probably owed their preservation to its almost miraculous warning. It was in a southern latitude. The sun had just set with placid appearance, after a beautiful afternoon, and the usual mirth of the evening watch was proceeding, when the captain’s order came to prepare with all haste for a storm. The barometer had begun to fall with appalling rapidity. As yet, the oldest sailors had not perceived even a threatening in the sky, and were surprised at the extent and hurry of the preparations ; but the required measures were not completed when a more awful hurricane burst upon them than the most experienced had ever braved. . . In that awful night, but for the little tube of mercury which had given the warning, neither the strength of the noble ship nor the skill and energies of the commander could have saved one man to tell the tale.”†

On many occasions the crews of fishing-boats have been

* Vol. II., p. 196 ; Jan., 1820.

† “Elements of Physics,” 2nd ed., i, 342. A theory of storms, based on numerous and extensive observations, has been propounded by Mr. Espy, of Philadelphia, which attempts to explain, on philosophical principles, the causes of the depression of the barometer previous to a hurricane, and also of the succeeding storm itself. There is a prospect,

lost through an obstinate disinclination to make use of barometers provided for their advantage. Experience, however, is fast curing our fishermen of such folly.

One of the most instructive illustrations of the connection between the different natural laws is presented in Captain Lyon's brief narrative of an unsuccessful attempt to reach Repulse Bay, in his Majesty's ship *Griper*, in the year 1824.

Captain Lyon mentions that he sailed in the *Griper* on 13th June, 1824, in company with his Majesty's surveying vessel *Snap*, as a store-tender. The *Griper* was a ship of 180 tons burden, and "drew 16 feet 1 inch abaft, and 15 feet 10 inches forward." On the 26th he "was sorry to observe that the *Griper*, from her great depth and sharpness forward, pitched very deeply." She sailed so ill, that "in a stiff breeze, and with studding-sails set, he was unable to get above four knots an hour out of her, and she was twice whirled round in an eddy in the Pentland Firth, from which she could not escape."

"On the 3rd July," he says, "being now fairly at sea, I caused the *Snap* to take us in tow, which I had declined doing as we passed up the east coast of England, although our little companion had much difficulty in keeping under sufficiently low sail for us, and by noon we had passed the Stack Back. The *Snap* was of the greatest assistance, the *Griper* frequently towing at the rate of five knots in cases where she would not have gone three. On the forenoon of the 16th, the *Snap* came and took us in tow; but at noon on the 17th, strong breezes and a heavy swell obliged us again to cast off. We scudded while able, but our depth in the water caused us to ship so many heavy seas that I most reluctantly brought-to under storm stay-sails. This was rendered exceedingly mortifying by observing that our companion was perfectly dry, and not affected by the sea.

"When our stores were all on board, we found our narrow decks completely crowded by them. The gangways, forecastle, and abaft the mizzenmast, were filled with casks,

therefore, of the laws which govern even storms being at length ascertained. [As to Espy's views, see Mr. Robert Russell's work on "North America: its Agriculture and Climate," pp. 305, 385; Edin., 1857. We may add that the electric telegraph promises to be of the greatest use in announcing the approach of tempests. Already arrangements have been made for the regular transmission of meteorological information with that view.—ED.]

hawsers, whale-lines, and stream cables, while on our straitened lower decks we were obliged to place casks and other stores in every part but that allotted to the ship's company's mess-tables ; and even my cabin had a quantity of things stowed away in it. It may be proper to mention that the *Fury* and *Hecla*, which were enabled to stow *three* years' provisions, were each exactly *double* the size of the *Griper*, and the *Griper* carried two years and a half's provisions."

Having arrived in the Polar Seas, they were visited by a storm, of which Captain Lyon gives the following description :—"We soon, however, came to fifteen fathoms, and I kept right away, but had then only ten ; when, being unable to see far around us, and observing, from the whiteness of the water, that we were on a bank, I rounded-to at seven A.M., and tried to bring-up with the starboard anchor and seventy fathoms chain, but the stiff breeze and heavy sea caused this to part in half-an-hour, and we again made sail to the north-eastward ; but, finding we came suddenly to seven fathoms, and that the ship could not possibly work out again, as she would not face the sea or keep steerage-way on her, I most reluctantly brought her up with three bowers and a stream in succession, yet not before we had shoaled to five and a half. This was between eight and nine A.M., the ship pitching bows under, and a tremendous sea running. At noon the starboard bower anchor parted, but the others held.

"As there was every reason to fear the falling of the tide, which we knew to be from twelve to fifteen feet on this coast, and in that case the total destruction of the ship, I caused the long-boat to be hoisted out, and, with the four smaller ones, to be stored to a certain extent with arms and provisions. The officers drew lots for their respective boats, and the ship's company were stationed to them. The long-boat having been filled full of stores which could not be put below, it became requisite to throw them overboard, *as there was no room for them on our very small and crowded decks, over which heavy seas were constantly sweeping.*

"In making these preparations for taking to the boats, it was evident to all that the long-boat was the only one that had the slightest chance of living under the lee of the ship, should she be wrecked, but every man and officer drew his lot with the greatest composure, though two of our boats would have swamped the instant they were lowered. Yet,

such was the noble feeling of those around me, that it was evident that, had I ordered the boats in question to be manned, their crews would have entered them without a murmur. In the afternoon, on the weather clearing a little, we discovered a low beach all around astern of us, on which the surf was running to an awful height, and it appeared evident that no human power could save us.

"At three P.M. the tide had fallen to twenty-two feet (*only six more than we drew*), and the ship, having been lifted by a tremendous sea, struck with great violence the length of her keel. This we naturally conceived was the forerunner of her total wreck, and we stood in readiness to take the boats, and endeavour to hang under her lee. She continued to strike with sufficient force to have burst any less fortified vessel at intervals of a few minutes, whenever an unusually heavy sea passed us. And as the water was so shallow, these might be called breakers rather than waves, for each, in passing, burst with great force over our gangways, and as every sea 'topped,' our decks were continually, and frequently deeply, flooded. All hands took a little refreshment, for some had scarcely been below for twenty-four hours, and I had not been in bed for three nights. Although few or none of us had any idea that we should survive the gale, we did not think that our comforts should be entirely neglected, and an order was therefore given to the men to put on their best and warmest clothing, to enable them to support life as long as possible.

"Every man, therefore, brought his bag on deck and dressed himself; and in the fine athletic forms which stood before me I did not see one muscle quiver nor the slightest sign of alarm. The officers each secured some useful instrument about them for the purpose of observation, although it was acknowledged by all that not the slightest hope remained. And now that everything in our power had been done, I called all hands aft, and to a merciful God offered prayers for our preservation. I thanked every one for his excellent conduct, and cautioned them, as we should in all probability soon appear before our Maker, to enter His presence as men resigned to their fate. We then sat down in groups, and, sheltered from the wash of the sea by whatever we could find, many of us endeavoured to obtain a little sleep. Never, perhaps, was witnessed a finer scene than on the deck of my little ship when all the hope of life had left us.

“ Noble as the character of the British sailor is always allowed to be in cases of danger, yet I did not believe it to be possible that amongst forty-one persons not one repining word should have been uttered. The officers sat about wherever they could find a shelter from the sea, and the men lay down, conversing with each other with the most perfect calmness. Each was at peace with his neighbour and all the world, and I am firmly persuaded that the resignation which was then shown to the will of the Almighty was the means of obtaining His mercy. At about six P.M. the rudder, which had already received some very heavy blows, rose, and broke up the after-lockers, and this was the last severe shock that the ship received. We found by the well that she made no water, and by dark she struck no more. God was merciful to us, and the tide, almost miraculously, fell no lower. At dark, heavy rain fell, but was borne in patience, for it beat down the gale, and brought with it a light air from the northward. At nine P.M. the water had deepened to five fathoms. The ship kept off the ground all night, and our exhausted crew obtained some broken rest.” (P. 76.)

In humble gratitude for his deliverance, he called the place “The Bay of God’s Mercy,” and “offered up thanks and praises to God for the mercy He had shown to us.”

On 12th September they had another gale of wind, with cutting showers of sleet and a heavy sea. “*At such a moment as this,*” says Captain Lyon, “*we had fresh cause to deplore the extreme dulness of the ‘Griper’s’ sailing; for though almost any other vessel would have worked off this lee-shore, we made little or no progress on a wind, but remained actually pitching, forecastle under, with scarcely steerage-way, to preserve which I was ultimately obliged to keep her nearly two points off the wind.*” (P. 98.)

Another storm overtook them, which is described as follows:—“Never shall I forget the dreariness of this most anxious night. Our ship pitched at such a rate that it was not possible to stand even below, while on deck we were unable to move without holding by ropes, which were stretched from side to side. The drift snow flew in such sharp heavy flakes that we could not look to windward, and it froze on deck to above a foot in depth. The sea made incessant breaches quite fore and aft the ship, and the temporary warmth it gave while it washed over us was most painfully checked by its almost immediately freezing on

our clothes. To these discomforts were added the horrible uncertainty as to whether the cables would hold until daylight, and the conviction also that if they failed us we should instantly be dashed to pieces, the wind blowing directly to the quarter in which we knew the shore must lie. Again, should they continue to hold us, we feared, by the ship's complaining so much forward, that the bits would be torn up, or that she would settle down at her anchors, overpowered by some of the tremendous seas which burst over her.

"At dawn on the 13th, thirteen minutes after four A.M., we found that the best bower cable had parted ; and, as the gale now blew with terrific violence from the north, there was little reason to expect that the other anchors would hold long ; or, if they did, we *pitched so deeply, and lifted so great a body of water each time, that it was feared the windlass and forecastle would be torn up, or she must go down at her anchors.* Although the ports were knocked out, and a considerable portion of the bulwark cut away, she could scarcely discharge one sea before shipping another, and the decks were frequently flooded to an alarming depth.

"At six A.M. all further doubts on this particular account were at an end, for, having received two overwhelming seas, both the other cables went at the same moment, and we were left helpless, without anchors or any means of saving ourselves, should the shore, as we had every reason to expect, be close astern. And here again I had the happiness of witnessing the same general tranquillity as was shown on the 1st of September. There was no outcry that the cables were gone ; but my friend Mr. Manico, with Mr. Carr, the gunner, came aft as soon as they recovered their legs, and in the lowest whisper informed me that the cables had all parted. The ship, in trending to the wind, lay quite down on her broadside, and as it then became evident that nothing held her, and that she was quite helpless, each man instinctively took his station ; while the seamen at the leads, having secured them as well as was in their power, repeated their soundings, on which our preservation depended, with as much composure as if we had been entering a friendly port. Here, again, that Almighty power which had before so mercifully preserved us granted us His protection." (P. 100.)

Nothing can be more interesting and moving than this

narrative ; it displays great predominance of the moral sentiments, but an intellect sadly unenlightened as to the natural laws. I have quoted, in Captain Lyon's own words, his description of the *Griper*, loaded to such excess that she drew sixteen feet of water—that she was incapable of sailing—that she was whirled round in an eddy in the Pentland Firth—and that seas broke over her which did not wet the deck of the little *Snap*, not half her size. Captain Lyon knew all this, and also the roughness of the climate to which he was steering ; and, with these outrages of the physical law staring him in the face, he proceeded on his voyage without addressing, so far as appears from his narrative, one remonstrance to the Lords of the Admiralty on the subject of this infringement of the principles of common prudence.

My opinion is that Captain Lyon was not blind to the errors in his equipment, or to their probable consequences ; but that his sentiment of veneration, combined with cautiousness and love of approbation (misdirected in this instance), deprived him of courage to complain to the Admiralty, through fear of giving offence ; or that, if he did complain, they prevented him from stating the fact in his narrative. To the tempestuous North he sailed, and his greatest dangers were clearly referable to the very infringements of the physical laws which he describes.

When the tide ebbed, his ship reached to within six feet of the bottom, and in the hollow of every wave struck with great violence ; but she was loaded at least four feet too deeply, by his own account ; so that if he had done his duty she would have had four feet of additional water, or ten feet in all, between her and the bottom even in the hollow of the wave—a matter of the greatest importance in such a critical situation. Indeed, with four feet more water she would not have struck ; besides, if she had been less loaded she would have struck less violently. Again, when pressed upon a lee-shore, her incapacity for sailing was a most obvious cause of danger. In short, if Providence is to be regarded as the cause of these calamities, there is no indiscretion which it is possible for Man to commit that may not, on the same principles, be charged against the Creator.

But the moral law again shines forth in delightful splendour in the conduct of Captain Lyon and his crew when in their most forlorn condition. Piety, resignation, and manly resolution then animated them to the noblest efforts. On

the principle that the power of accommodating our conduct to the natural laws depends on the activity of the moral sentiments and the intellect, and that the more numerous the faculties that are excited the greater is the energy communicated to the whole system, I would say, that while Captain Lyon's sufferings were in a large degree brought on by his infringements of the physical laws, his escape was greatly promoted by his obedience to the moral law; and that Providence in the whole occurrences proceeded on the broad and general principle which sends advantage uniformly as the reward of obedience, and evil as the punishment of infringement of every particular law of creation.

That storms and tempests have been instituted for some benevolent end may perhaps be acknowledged when their causes and effects are fully known: which at present is not the case. But even amidst all our ignorance of these, it is surprising how small a portion of evil they would occasion if men obeyed the laws which are actually ascertained. How many ships perish from being sent to sea in an old worn-out condition, and ill-equipped, through mere acquisitiveness! and how many more from captains and crews being chosen who are greatly deficient in knowledge, intelligence, and morality, in consequence of which they infringe the physical laws!

The London *Courier* of 29th April, 1834, contains a list of ten British brigs of war, mostly employed as packet-ships, which had foundered at sea within the preceding twelve years owing to bad construction and bad condition; while, it is remarked, *not one American private packet-ship*, out of the vast number constantly sailing between Liverpool and New York, is recollected to have perished in that manner. Such facts show how little Nature is to blame for the calamities of shipwreck, and to how great an extent they arise from human negligence and folly. We ought to look to all these matters before we complain of storms as natural institutions.

The last example of the mixed operation of the natural laws which I shall notice is the result of the mercantile distress in 1825-6. I have traced the origin of that visitation to excessive activity of acquisitiveness and to a general ascendancy of the animal and selfish faculties over the moral and the intellectual powers. The punishments of these

offences were manifold. The excesses infringed the moral law, and the chastisement for this was deprivation of the tranquil enjoyment that flows only from the moral sentiments, with severe suffering in the ruin of fortune and in the blasting of hope. These disappointments produced mental anguish and depression, which occasioned an unhealthy state of the brain. The action of the brain being disturbed, a morbid nervous influence was transmitted to the whole corporeal system ; bodily disease was super-added to mental sorrow ; and in some instances the unhappy sufferers committed suicide to escape from these aggravated evils. Under the organic law, the children produced in this period of mental depression, bodily distress, and organic derangement will inherit weak bodies and feeble and irritable minds—an hereditary chastisement for their fathers' transgressions.

In the instances now given we discover the various laws acting in perfect harmony and in subordination to the moral and intellectual laws. If our ancestors had not forsaken the supremacy of the moral sentiments, such fabrics as the houses in the Old Town of Edinburgh never would have been built ; and if the modern proprietors had returned to that law, and had kept profligate and drunken inhabitants out of them, the conflagration might still have been avoided. In the case of the ships, we see that wherever intellect and morality have been relaxed, and animal motives have been permitted to assume the supremacy, evil has speedily followed ; and that where the higher powers have been called forth, safety has been obtained. And finally, in the case of the merchants and manufacturers, we trace their calamities directly to placing acquisitiveness and self-esteem above intellect and moral sentiment.

Formidable and appalling, then, as these evils are, yet, when we attend to the laws under which they occur, and perceive that the object and legitimate operation of every one of those laws, when observed, is to produce happiness to Man, and that the sufferings have the tendency to force him back to happiness, we cannot, under the supremacy of the moral sentiments and the intellect, fail to bow in humility before them, as at once wise, benevolent, and just.

An important question remains for consideration—Can we *evade* the action of the natural laws ? It appears to me that we cannot do so ; but that, by intelligently obeying them, and by availing ourselves of their action, we may do what

superficial observers mistake for evading them. By employing a balloon, for example, we may rise in the air, although the law of gravitation appears to fix us to the earth ; but in this case we, in point of fact, rise by the law of gravitation. The gases which compose the atmosphere are heavier than the hydrogen gas with which we fill the balloon, and the latter ascends in virtue of the same law which causes timber to float on the surface of the water.

“About three years ago,” says Mr. Edwin Chadwick, “an epidemic raged in Glasgow, and there was scarcely a family, high or low, which escaped attacks from it. But at Glasgow they have an exceedingly well-appointed, well-ventilated prison, and in that prison there was not a single case of epidemic ; and in consequence of the overcrowding of the hospitals, which killed some two thousand people, they took forty cases into the prison, and not one of them spread.”

It may appear to some persons that the directors of this prison had found out the means of *evading* the organic law, and consequently of escaping from the infection of the fever ; but this is a mistake. The organic law is, that fever infects only when the atmosphere is surcharged with noxious effluvia, and when the bodies of those exposed to it are low in tone. In the prison, good ventilation was maintained, and the prisoners were adequately fed. The spread of the infection, therefore, was warded off, not by evading, but by obeying the organic law. Captain Murray, of the Royal Navy, maintained the crew of his ship in excellent health in the West Indies when the crews of other ships were dying around him, not by *evading*, but by *obeying* the organic laws. When Lord Exmouth saved the crew of the *Dutton* (see p. 207), he also succeeded by obeying the physical law. He used ropes to prevent himself and them from sinking in the waves.

It is unnecessary to enlarge on this topic. God, who instituted the natural laws, and attached certain consequences to obedience and others to disobedience, is too wise to have made inconsistent arrangements, too powerful to be baffled by human ingenuity, and too benevolent to render it credible that we shall benefit ourselves more by disobeying than by complying with His laws.

CHAPTER XVII.

PRACTICAL VALUE OF THE NATURAL LAWS.

A FEW observations will suffice to present a brief summary of the doctrine of the preceding Work.

The science of POLITICS embraces forms of government and the relations between different States. All government is designed to combine the efforts of individuals, and to regulate their conduct when united. To arrive at the best means of accomplishing this end, systematic knowledge of the nature of Man seems to be highly important. A despotism, for example, may restrain some abuses of the propensities, but it assuredly impedes the exercise of reflection, and of others of the highest and noblest powers. A form of government can be suited to the nature of Man only when it is calculated to permit the legitimate use, and to restrain the abuses, of all his mental feelings and capacities. But how can such a government be devised while these faculties, with their spheres of action and external relations, are imperfectly known? Again, all relations between different States must also, to prove permanently beneficial, be in accordance with the nature of Man; and the question recurs, How are these to be framed while that nature is a matter of conjecture?

LEGISLATION, civil and criminal, is intended to regulate and direct the human faculties in their efforts at gratification; and laws, to be useful, must accord with the constitution of these faculties. But how can salutary laws be enacted while the subject to be governed, or human nature, is not accurately understood? The inconsistency and intricacy of the laws, even in enlightened nations, have afforded themes for the satirist in every age;—yet, how could the case be otherwise? Legislators provided rules for directing the qualities of human nature, which they conceived themselves to know; but either error in their conceptions, or the effects of other qualities unknown or unattended to, defeated their intentions. The law, for example, that punished heresy with burning was addressed by our ancestors to cautiousness and the love of life; but intellect, veneration, conscientiousness, and firmness were omitted in their estimate

of human principles of action—and these set the law at defiance. There are many laws still in the statute-book equally at variance with the nature of Man.

EDUCATION is intended to enlighten the intellect, to train it and the moral sentiments to vigour, and to repress the too great activity of the selfish feelings. But how can this be successfully accomplished when the faculties and sentiments themselves, the laws to which they are subject, and their relations to external objects, are unascertained? Accordingly, the theories and practices in education are innumerable and contradictory; which could not happen if men knew the constitution and relations of the object which they were training.

Where the philosophy of Man is unknown, children are not taught any rational views of the order of God's providence on earth, nor are they trained to venerate and obey it; they are not instructed in the constitution of society, and they obtain no sufficient information concerning the real sources of individual enjoyment and social prosperity. They are not taught any system of morals based on the nature of Man and his social relations, but are left each to grope his way to happiness, guided by creeds and catechisms, which they see many men neglecting in their actions. The poor observe the rich pursuing pleasure and fashion; and, if they follow such examples, they must resort to crime for the means of gratification. No solid instruction is given them, sufficient to satisfy their understandings that the rich themselves are straying from the paths that lead to happiness, and that it is to be found only in other and higher occupations.

MORALS and RELIGION cannot assume a systematic and thoroughly practical character until the elementary faculties of the mind, and their relations to the external creation, shall be discovered and taught.

It is presumable that the Deity, in creating these powers and the external world, really adapted the one to the other; and that individuals and nations, in obeying the dictates of the natural laws, must in every instance be promoting their best interests, while in departing from them they must be sacrificing these to passion or to illusory notions of advantage. But until the nature of Man, and the relationship between it and the external world, shall be ascertained and systematically expounded, it will be impossible to support morality by the powerful demonstration that interest coincides with it, and to render religion practical by showing

that all Nature is in harmony with the sentiment of veneration in the mind. The tendency in most men to view expediency as not always coincident with justice affords a striking proof of the limited knowledge of the constitution of Man and the external world still existing in society.

The PROFESSIONS, PURSUITS, HOURS OF EXERTION, and AMUSEMENTS of individuals should also bear reference to their physical and mental constitution ; but hitherto no guiding principle has been possessed to regulate practice in these important particulars—another evidence that the science of Man has been unknown.

In consequence of the want of a philosophy of Man, there is little harmony between the different departments of human pursuit. God is one ; and as He is intelligent, benevolent, and powerful, we may reasonably conclude that creation is one harmonious system, in which the physical is adapted to the moral, the moral to the physical, and every department of these grand divisions to the whole. But at present, many principles clearly revealed by philosophy are impracticable, because the institutions of society have not been founded with due regard to their existence.

An educated lady, for example, and a member of one of the learned professions, may possess the clearest conviction that God, by the manner in which He has constituted the body and the mind, has positively enjoined muscular exertion as indispensable to the possession of sound health, to the enjoyment of life, and to the rearing of a healthy offspring ; and, nevertheless, they may find themselves so hedged round by routine of employment, by the fashions of society, by the influence of opinion, and by the positive absence of all arrangements suited to the purpose, that they may be rendered nearly as incapable of yielding this obedience to God's law as if they were imprisoned in a dungeon.

By Religion we are commanded not to permit ourselves to be engrossed with the cares of this world, but to seek godliness, and to eschew selfishness, contention, and the vanities of life. These precepts must have been intended to be practically followed, else it was a mockery to give them forth. But if they are practicable, the inherent constitution of Man and that of the world must have been arranged in such a manner as to admit of their being obeyed ; and not only so, but also to render men happy in proportion as they should practise, and miserable as they should neglect, them. Nevertheless, when we survey human society in the forms

in which it has hitherto existed, and in which it now exists, these precepts appear to have been, and to be now, absolutely impracticable to ninety-nine out of every hundred of civilised men.

Suppose the most eloquent and irresistibly convincing discourse on the Christian duties to be delivered on Sunday to a congregation of Manchester manufacturers and their operatives, or to London merchants, Essex farmers, or Westminster lawyers, how would they find their respective spheres of life adapted for *acting* on their convictions? They are all commanded to love God with their whole heart and soul, and to resist the world and the flesh: that is to say, to support their moral affections and intellectual powers in habitual activity, to direct them to noble, elevating, and beneficial objects, and to resist the subjugation of these higher attributes of their minds to animal pleasure, sordid selfishness, and worldly ambition.

The moral and the intellectual powers assent to the reasonableness of these precepts, and rejoice in the prospect of their practical application. But on Monday morning, the manufacturers, owing to the institutions of society, and the department of life into which their lot has been cast before they had either reason or moral perception to direct their choice, must commence a course of ceaseless toil—the workmen that they may support life, and the masters that they may avoid ruin or accumulate wealth. Saturday evening finds them worn-out with mental and bodily exertion, continued through all the intermediate days, and directed to pursuits connected with this world alone. Another Sunday dawns upon them in a state of mind widely at variance with the Christian condition. In like manner, the merchant must devote himself to his bargains, the farmer to his plough, and the lawyer to his briefs: so that their moral powers have neither objects presented to them, nor vigour left for enjoyments befitting their nature and desires.

It is in vain to say to individuals that they err in acting thus: individuals are carried along in the great stream of social institutions and pursuits. The operative labourer is compelled to follow his routine of toil, under pain of absolute starvation. The master-manufacturer, the merchant, the farmer, and the lawyer are pursued by competitors so active, that if they relax in selfish ardour they will be speedily plunged into ruin. If God has so constituted the human

mind and body, and so arranged external Nature that all this is unavoidably necessary for Man, then the Christian precepts are scarcely more suited to human nature and circumstances in this world than the command to fly would be to the nature of the horse. If, on the other hand, Man's nature and circumstances do in themselves admit of the Christian precepts being realised, it is obvious that before this can be accomplished a great revolution must take place in our notions, principles of action, practices, and social institutions.

We need only attend to the scenes daily presenting themselves in society to obtain an irresistible conviction that many evil consequences result from the want of a true theory of human nature and its relations. Every preceptor in schools, every professor in colleges, every author, editor, and pamphleteer, every member of Parliament, councillor, and judge, has a set of notions of his own, which, in his mind, holds the place of a system of the philosophy of Man; and although he may not have methodised his ideas, or have even acknowledged them to himself as a theory, yet they constitute a standard to him by which he judges of all questions in morals, politics, and religion. With unhesitating dogmatism he advocates whatever views coincide with them, and condemns all that differ from them. Each also despises the notions of his fellows, in so far as they differ from his own.

In short, the human faculties too generally operate simply as impulses, exhibiting all the conflict and uncertainty of mere feeling, unenlightened by perception of their own nature and objects. Hence, public measures in general, whether relating to education, religion, trade, manufactures, the poor, criminal law, or any other subject linked with the dearest interests of society, instead of being treated as branches of one general system of economy, and adjusted on scientific principles each in harmony with all the rest, are supported, or opposed, on narrow and empirical grounds, and often call forth displays of ignorance, prejudice, selfishness, intolerance, and bigotry, that greatly obstruct the progress of improvement. Indeed, any important approach to unanimity, even among intelligent and virtuous men, will be impossible so long as the order of Nature is not acknowledged as an authoritative guide to individual feelings and perceptions.

If, then, the doctrine of the Natural Laws here expounded

be true, it will, when matured, supply the deficiencies now pointed out.

But how are the views explained in this Work, supposing them to contain some portion of truth, to be rendered practical? Sound views of human nature and of the Divine government come home to the feelings and understandings of men. They perceive them to possess a reality which rivets attention and commands respect. If the doctrine unfolded in the present treatise be in any degree true, it is destined to operate on the character of legislation, on practical conduct, and on public instruction—especially that from the pulpit.

Persons who have embraced the views which it contains inform me that many sermons appear to them inconsistent in their different propositions, at variance with sound views of human nature, and so vague as to have little relation to practical life and conduct. They partake of the abstractedness of the scholastic philosophy. The first divine of comprehensive intellect and powerful moral feelings who shall take courage to introduce the Natural Laws into his discourses, and to teach the people the works and institutions of the Creator, will reap a great reward in usefulness and pleasure. If this course shall, as heretofore, be neglected, the people, who are daily increasing in knowledge of philosophy and practical science, will, in a few years, look with disrespect on their clerical guides, and will probably force them, by “pressure from without,” to re-model the entire system of pulpit instruction.*

The principles developed in the preceding chapters, if founded in Nature, may be expected to lead to considerable changes in many of the customs and pursuits of society; but to accomplish this effect, these must first be ascertained to be true; next they must be sedulously taught, and only thereafter can they be practically applied. It appears to me that a long series of years will probably elapse before even nations now regarded as civilised shall model their institutions and manners in harmony with the Natural Laws.

The first step should be to teach these laws to the young. Their minds, not being occupied by prejudice, will recognise

* Since this was written, many preachers have occasionally introduced into their sermons pointed references to the natural laws of God.

them as congenial to their constitution ; the first generation that shall embrace them from infancy will proceed to modify the institutions of society into accordance with their dictates, and in the course of ages they may at length be found to be practically useful. A perception of the importance of the Natural Laws will lead to their observance, and this will be attended by an increase of physical prosperity, a higher morality, and, in process of time, an improved development of mind, increasing the desire and capacity for further progress. All true theories have ultimately been adopted, and have influenced practice ; and I see no reason to fear that the present, if true, will prove an exception. The failure of all previous systems is the natural consequence of their having been unfounded ; if this resemble them, it deserves, and assuredly will meet a similar fate.

The present Work may be regarded as, in one sense, an introduction to an essay on education. If the views unfolded in it are in general sound, it will follow that education has scarcely yet commenced. If the Creator has bestowed on the body, on the mind, and on external nature determinate constitutions, and has arranged them to act on each other, and to produce happiness or misery to Man according to certain definite principles, and if this action goes on invariably, inflexibly, and irresistibly, whether men attend to it or not, it is obvious that the very basis of useful knowledge must consist in an acquaintance with these natural arrangements, and that education will be valuable in the exact degree in which it communicates such information, and trains the faculties to act upon it.

Reading, writing, and arithmetic, which make up the instruction generally enjoyed by the lower orders, are merely *means of acquiring knowledge*, but do not *constitute knowledge*. Greek, Latin, and Mathematics, which are added in the education of the middle and upper classes, are still only *means of obtaining information* ; hence, with the exception of the few who pursue physical science, society dedicates very little attention to the study of the Natural Laws. And even those who do study science disconnect it from the moral and religious sentiments, and thus allow more than half of its beneficial influence on human conduct to be lost.

In attempting to give effect to the views now discussed, I respectfully recommend that each individual, according as

he becomes acquainted with the Natural Laws, should obey them, and communicate his experience of their operations to others ; avoiding, at the same time, the subversion, by violence, of established institutions, and all outrages on public sentiment by intemperate discussions. The doctrines here unfolded, if true, authorise us to predict that the most successful method of ameliorating the condition of mankind will be that which appeals most directly to their moral sentiments and their intellect ; and I may add, from experience and observation, that, in proportion as any one becomes acquainted with the real constitution of the human mind will his conviction of the efficacy of this method increase.

Finally, if it be true that the Natural Laws must be obeyed as a preliminary condition to happiness in this world, and if virtue and happiness be inseparably allied, the religious instructors of mankind may one day discover, in the general and prevalent ignorance of these laws, a reason of the limited success which has hitherto attended their efforts to improve the condition of mankind ; and they will perhaps perceive it to be not inconsistent with their sacred office to instruct men in the natural institutions of the Creator as well as in Scripture, and to recommend obedience to both. The clergy exercise so vast an influence over the best members of society that their countenance may hasten, or their opposition may retard, by a century the general adoption of the Natural Laws as guides to human conduct.

If the excessive toil of the manufacturer be inconsistent with that elevation of the moral and intellectual faculties of Man which is commanded by religion, and if the moral and the physical welfare of mankind be not at variance with each other (which they cannot be), the institutions of society out of which the necessity for that labour arises must be pernicious to the interests of the State as a political body, and to the temporal welfare of the individuals who compose it. Whenever we shall be in possession of a correct knowledge of the elements of human nature, and of the principles on which God has constituted, and on which He governs the world, the *evidence* that these practices are detrimental to *our temporal welfare* will be as clear as that of their inconsistency with our religious duties. Until, however, divines shall become acquainted with this relation between philosophy and

religion, they will not possess adequate means of rendering their precepts practical in this world ; they will not carry the intellectual perceptions of their hearers fully along with them ; they will be incapable of controlling the force of the animal propensities ; and they will never lead society to the fulfilment of its highest destinies.

It appears to me that by teaching mankind the philosophy of their own nature, and of the world in which they live—by proving to them the harmony between the order of God's secular providence and Christian morality, and the inconsistency of their own practices with both—they may be induced to modify the latter, and to give the moral powers predominance in social institutions ; and then the triumph of virtue and religion will be more complete.

Those who advocate the exclusive importance of spiritual religion for the improvement of mankind appear to me to err in overlooking too much the necessity for complying with the natural conditions on which all improvement depends ; and I expect that when schools and colleges shall expound the various branches of science as elucidations of the order of God's providence for the guidance of human conduct on earth—when the pulpit shall deal with the same principles, show their practical application to Man's duties and enjoyments, and add the sanctions of religion to enforce the observance of the Natural Laws—and when the busy scenes of life shall be so arranged as to become a field for the practice at once of philosophy and of religion—then will Man assume his station as a rational being, and Religion will achieve her triumph.

A P P E N D I X.

No. I.—DEATH.

Text, p. 139.

THE fact of a decrease in the mortality of England is strikingly supported by the following extract from the *Scotsman* of 16th April, 1828. The article is from the pen of the late Mr. Charles Maclare, who then edited the paper: a gentleman whose extensive information and scrupulous regard to accuracy and truth stamped the highest value on his statements of fact, and whose profound and comprehensive intellect warranted a well-grounded reliance on his philosophical conclusions.

“DIMINISHED MORTALITY IN ENGLAND.—The diminution of the annual mortality in England, amidst an alleged increase of crime, misery, and pauperism, is an extraordinary and startling fact, which merits a more careful investigation than it has received. We have not time to go deeply into the subject; but we shall offer a remark or two on the question how the apparent annual mortality is affected by the introduction of the cowpox, and the stationary or progressive state of the population. In 1780, according to Mr. Rickman, the annual deaths were 1 in 40, or *one-fortieth* part of the population died every year; in 1821 the proportion was 1 in 58. It follows that out of any given number of persons, 1,000 or 10,000, scarcely more than two deaths take place now for three that took place in 1780, or the mortality has diminished 45 per cent. The parochial registers of burials in England, from which this statement is derived, are known to be incorrect; but as they continue to be kept without alteration in the same way, the errors of one year are justly conceived to balance those of another, and they thus afford *comparative* results, upon which considerable reliance may be placed.

“A community is made up of persons of many various ages, among whom the law of mortality is very different.

Thus, according to the Swedish tables, the deaths among children from the moment of birth up to 10 years of age are 1 in 22 per annum; from 10 to 20, the deaths are only 1 in 185. Among the old, again, mortality is of course great: From 70 to 80, the deaths are 1 in 9; from 80 to 90 they are 1 in 4. Now, a community like that of New York or Ohio, where marriages are made early and the births are numerous, necessarily contains a large proportion of young persons, among whom the proportional mortality is low, and a small proportion of the old, who die off rapidly. A community in which the births are numerous is like a regiment receiving a vast number of young and healthy recruits, and in which, of course, as a whole, the annual deaths will be few compared with those in another regiment chiefly filled with veterans, though among the persons at any particular age, such as 20, 40, or 50, the mortality will be as great in the one regiment as in the other. It may thus happen that the annual mortality among 1,000 persons in Ohio may be considerably less than in France, while the *Expectation of Life*, or the chance which an individual has to reach to a certain age, may be no greater in the former country than in the latter; and hence we see that a diminution in the rate of mortality is not a certain proof of an increase in the value of life, or an improvement in the condition of the people.

“ But the effect produced by an increased number of births is less than might be imagined, owing to the very great mortality among infants in the first year of their age. Not having time for the calculations necessary to get at the precise result, which are pretty complex, we avail ourselves of some statements given by Mr. Milne in his Work on Annuities. Taking the Swedish tables as a basis, and supposing the law of mortality to remain the same for each period of life, he has compared the proportional number of deaths in a population which is stationary and in one which increases 15 per cent. in 20 years. The result is that when the mortality in the stationary society is 1 in 36·13, that in the progressive society is one in 37·33, a difference equal to $3\frac{1}{2}$ per cent. Now, the population of England and Wales increased 34·3 per cent. in the 20 years ending in 1821, but in the interval from 1811 to 1821 the rate was equivalent to 39 $\frac{1}{4}$ per cent. upon 20 years; and the apparent diminution of mortality arising from this circumstance must, of course, have been about 8 $\frac{1}{2}$ per cent. We are assuming, however, that the population was absolutely stationary at 1780, which was not the case,

According to Mr. Milne (p. 437), the average annual increase in the five years ending 1784 was 1 in 55; in the ten years ending 1821, according to the census, it was 1 in 60. Deducting, then, the proportional part corresponding to the former, which is $3\frac{1}{2}$, there remains $5\frac{1}{2}$. If Mr. Milne's tables, therefore, are correct, *we may infer that the progressive state of the population causes a diminution of $5\frac{1}{2}$ per cent. in the annual mortality*—a diminution which is only *apparent*, because it arises entirely from the great proportion of births, and is not accompanied with any real increase in the value of human life.

“A much greater change—not apparent, but real—was produced by the introduction of vaccination in 1798. It was computed that in 1795, when the population of the British Isles was 15,000,000, the deaths produced by the smallpox amounted to 36,000, or nearly 11 per cent. of the whole annual mortality. (See article *Vaccination* in the Supplement to “*Encyclopædia Britannica*,” p. 713.) Now, since not more than one case in 330 terminates fatally under the cowpox system, either directly by the primary infection or from the other diseases supervening, the whole of the young persons destroyed by the smallpox might be considered as saved were vaccination universal and always properly performed. This is not precisely the case, but one or one and a half per cent. will cover the deficiencies; and we therefore conclude that *vaccination has diminished the annual mortality fully nine per cent.* After we had arrived at this conclusion by the process described, we found it confirmed by the authority of Mr. Milne, who estimates, in a note to one of his tables, that the mortality of 1 in 40 would be diminished to 1 in 43-45 by exterminating the smallpox. Now, this is almost precisely 9 per cent.

“We stated that the diminution of the annual mortality between 1790 and 1821 was 45 per cent., according to Mr. Rickman. If we deduct from this 9 per cent. for the effect of vaccination, and 5 per cent. as only apparent, resulting from the increasing proportion of births—31 per cent. remains, *which, we apprehend, can only be accounted for by an improvement in the habits, morals, and physical condition of the people.* Independently, then, of the two causes alluded to, the value of human life since 1780 has increased in a ratio which would diminish the annual mortality from 1 in 40 to 1 in $52\frac{1}{2}$ —a fact which is indisputably of great importance, and worth volumes of declamation in illustrating the true

situation of the labouring classes. We have founded our conclusion on data derived entirely from English returns, but there is no doubt that it applies equally to Scotland. It is consoling to find, from this very unexceptionable species of evidence, that though there is much privation and suffering in the country, the situation of the people has been, on the whole, progressively improving during the last forty years.* But how much greater would the advance have been had they been less taxed and better treated! and how much more room is there still for future amelioration by spreading instruction, amending our laws, lessening the temptations to crime, and improving the means of correction and reform! In the meantime, it ought to be some encouragement to philanthropy to learn that it has not to struggle against invincible obstacles, and that even when the prospect was least cheering to the eye its efforts were silently benefiting society."

No. II.—THE TREATMENT OF CRIMINALS.

Text, p. 200.

The author's "Remarks on Criminal Legislation and the Practice of Prison Discipline" being now out of print, the editors may here mention, what was stated in the note pre-fixed to it, that it is an expanded edition of an article from his pen which appeared in the *Westminster Review* for April, 1854. Prefixed to the pamphlet is the following statement of opinion as to the principle on which it is based:—

"Having been requested to state our opinion of the annexed pamphlet, we, without being understood to become answerable for the accuracy of all the facts, or the soundness of all the reasonings which it contains, have no hesitation in giving our opinion that the fundamental principle which pervades it—namely, that *Criminal Legislation and Prison Discipline will never attain to a scientific, consistent, prac-*

* Before the passing of the Registration Act there were no trustworthy data for determining the rate of mortality in England. The Reports of the Registrar-General show that the actual rate in all England and Wales is now 1 in 45, but that it varies in urban and rural districts from 1 in 30 to nearly 1 in 70. These Reports afford ample evidence that the condition of the people is improving.—ED.

tical, and efficient character, until they become based on Physiology, and especially on the Physiology of the Brain and Nervous System—is a sound principle; and, most strongly entertaining this conviction, we recommend Mr. Combe's views to the consideration of all who take an interest in these momentous subjects.

- “ B. C. BRODIE, Bart., D.C.L., F.R.S., Sergeant-Surgeon to the Queen, Surgeon to H.R.H. Prince Albert, &c., &c.
- “ JAMES CLARK, Bart., M.D., F.R.S., Physician in Ordinary to the Queen and H.R.H. Prince Albert, &c., &c.
- “ HENRY HOLLAND, Bart., M.D., F.R.S., Physician in Ordinary to the Queen and H.R.H. Prince Albert, &c., &c.
- “ RICHARD OWEN, LL.D., F.R.S., Professor of Physiology to the Royal College of Surgeons, London, &c., &c.
- “ JOHN FORBES, Knt., M.D., D.C.L., F.R.S., Physician to the Queen's Household, and Phys. Ext. to H.R.H. Prince Albert, &c., &c.
- “ JOHN CONOLLY, M.D., D.C.L., Consulting Physician to Middlesex Lunatic Asylum, Hanwell, &c., &c.
- “ WILLIAM B. CARPENTER, M.D., Examiner in Physiology and Comparative Anatomy, University of London; Prof. of Med. Jurisprudence, University College, London, &c., &c.

“ LONDON, April, 1854.”

The editors also think it due to the author to quote the following note, prefixed by the late Mr. Baron Alderson to a part of his Charge to the Grand Jury of Yorkshire at the Winter Assize, 1854, which he published as a pamphlet “On the Reform of Youthful Criminals by means of Reformatory Schools,” under 17 and 18 Vict., c. 86; London, 1855:—

“ I have been induced to print the following observations, which formed the concluding part of my charge to the Grand Jury of the county of York at the late Winter Assize, in the hope of drawing attention to the very valuable work of Mr. Combe, called ‘The Principles of Criminal Legislation,’ which I have read with great interest, and, I hope, with some advantage.

“ Without agreeing entirely with the speculations of that

gifted writer, I must candidly say that I think his Work contains most valuable materials for careful thought, and observations which every sincere reformer of our criminal population ought to weigh well and deeply consider."

No. III.—SUFFERING UNDER THE NATURAL LAWS.

Text, p. 200.

In 1847, when fever, the consequence of destitution, was raging in Ireland, and was also very prevalent in Liverpool, Glasgow, and other towns exposed to the immigration of the Irish people, the following rules were presented and explained to the lower orders of the inhabitants of Glasgow:—

“Rules to be very Carefully Observed, and never Relaxed, by all that would Preserve Health, and avoid that Dreadful Scourge, Typhus Fever.

“General Rule.—TEMBERANCE, CLEANLINESS, and BREATHING PURE AIR are three of the surest means of securing health, and preventing attacks of Typhus Fever or any other disease.

“1. Very often open the window of a room, and at the same time the door, and let the air go through. You need not sit in the draught: *that* is dangerous. The windows of common stairs and passages should always be half open. Is this the case in yours?

“2. On getting up in the morning, air the room well in the way just mentioned; let the draught of air pass *through the bed or beds* for at least half-an-hour before they are made up. Making up a warm or ill-aired bed will itself produce disease. Hang the blankets before the fire every now and then. Keep bed, bedding, and bedstead as clean as possible.

“3. If possible, never wear in the day the shirt or shift you sleep in. Air both well, when taken off, in the air draught. Never wear them more than a week.

“4. On getting out of bed, dip a sponge or towel in water, and give a rapid wash with it to the whole body, rubbing it dry with a hard rough towel. Cold water is best, but warm water may be used if cold is disliked. Accustom your children not to be afraid of the cold water sponge. They

will come to like it, and to apply it themselves. If your employment is dirty, wash at night also. Wash your children all over every night, and, at least, their faces, hands, and necks every morning.

“5. Sweep out your rooms, passages, and stairs every day, and wash them once a week. Whitewash at least twice a year. The trouble and expense are nothing compared with the great benefit to your health.

“6. Do all you can to avoid hanging your washings to dry in the rooms you live in. Nothing is more dangerous to health. Soap-suds, foul water, and filth should be removed from the room without delay.

“7. Use as much water in the house as you possibly can. Carrying it in is laborious, but the labour will be well repaid in health and comfort. The time is at hand when every house, however humble, will have its own water-tap always giving water, so that no cistern or water-vessels will be needed.

“8. *Never live on poor food*, that you may save the money for drink. Simple directions for thrifty and good cooking will soon be sent to you. Strive to learn the best ways, in the meantime from neighbours who can cook well.

“9. Lose no opportunity of walking and taking exercise in the open air.

“10. When typhus fever, smallpox, or scarlet fever is in your house, be sure to keep the rooms well aired, and separate as much as you can the healthy part of the family from those who are ill. Do not enter your neighbours' houses, or allow idle gossipers to come into yours; and do not go to church or meetings, or send your children to school. You thus prevent the spread of the disease. Carelessness in these things, we know, is one great cause of fever spreading amongst the poor.

“11. Never, unless duty calls, go into a house where there is disease; and when you are obliged to do so, never enter *fasting* or when *warm with walking*; avoid the patient's breath, and stay as short a time as possible.

“12. Whether the patient dies or recovers, be sure to wash most carefully every article of clothes or bedding he has used. Get a bottle of solution of chloride of lime from a druggist; often sprinkle the bed and floor with it, and keep a plate of it on the floor. Do all in your power to avoid keeping the dead in the same room with the living; never have any '*wake*'; and bury without delay.

“Lastly. Take a very serious thought on the subject of WHISKY—the grand source of poverty, want, and disease—the grand destroyer of health, of morals, of character, of home, of comfort and peace. Ask yourself this question—Is the enjoyment of the dram or the tumbler a good bargain for the loss of all these? Sensible men are taking this thought. Many a young man is resolving to have done with drinking, and enjoy life *really*, which no one does who drinks. He lives a wretched life: and, mark this, he must for ever continue poor. NO DRINKER EVER RISES ABOVE THE LOWEST POVERTY. Mark this, too, TYPHUS FEVER FINDS OUT THE DRUNKARD, AND FASTENS ON HIM.

“We earnestly entreat you to comply to the utmost of your power with these simple rules. Use the means God gives you. Make no excuses about want of time and opportunity. Show that you will do all you can for yourselves, and depend upon it others will aid you. But while you obstinately refuse to keep your houses and your persons clean, you cannot expect your fellow-creatures to go near you, risking health and life itself in the vain attempt to help those who will not help themselves. Begin, then, *this very day* to clean yourselves, your clothes, and your houses, and let fresh air in by every door and window.

| | |
|--------------------------|--------------------------|
| “ JOHN AITKEN, M.D. | “ WILLIAM M'DONALD, M.D. |
| WILLIAM BROWN, M.D. | ANDREW M'EWAN, Surgeon. |
| J. A. EASTON, M.D. | |
| ANDREW FERGUS, Surgeon. | GEORGE M'EWAN, Surgeon. |
| WILLIAM FINLAY, M.D. | JOHN M'EWAN, M.D. |
| JOSEPH FLEMING, Surgeon. | JOSHUA PATERSON, M.D. |
| WILLIAM HALL, Surgeon. | ROBERT THOMSON, M.D. |
| J. HAY, Surgeon. | J. G. TORREY, Surgeon. |

“Glasgow, June, 1847.”

“The undersigned, in consequence of the great prevalence of fever, recommend instant attention to those sanitary means which medical skill has prescribed for preventing its increase, and which, by the Divine blessing, may prove effectual in arresting its progress.” *

* This recommendation was subscribed by the magistrates, and by clergymen of all denominations in Glasgow.

The distribution of these rules was a wise and a prudent measure ; but how much more effectually would they have been observed if the people had been taught in primary schools to understand the laws of health, and had been trained by the clergy to reverence those laws as Divine institutions !

THE END.

“Treasure Island” Series.

CHEAP ILLUSTRATED EDITIONS.

Cloth, 3s. 6d. each.

The Master of Ballantrae.

By ROBERT LOUIS STEVENSON. With Ten Full-page Illustrations by W. B. HOLE, R.S.A.

The Black Arrow.

A Tale of the Two Roses. By ROBERT LOUIS STEVENSON. With Eight Full-page Illustrations by H. M. PAGET.

Treasure Island.

By ROBERT LOUIS STEVENSON. With Twenty-five Full-page Illustrations.

“Kidnapped.”

By ROBERT LOUIS STEVENSON. With Sixteen Full-page Illustrations by W. B. HOLE, R.S.A.

The Splendid Spur.

By Q, Author of “Dead Man’s Rock,” &c. With Eight Full-page Illustrations by WALTER PAGET.

King Solomon’s Mines.

By H. RIDER HAGGARD, Author of “She,” &c. With Eight Full-page Illustrations by WALTER PAGET.

CASSELL & COMPANY, LIMITED, London; Paris & Melbourne.

The Perfect Gentleman.

By the REV. A. SMYTHE-PALMER, D.D., Author of "Folk Etymology-Leaves from a Word-Hunter's Note-book," &c. Small crown 8vo, antique paper, cloth gilt, gilt top, 3s. 6d.

The Successful Life :

A Book for Young Men commencing business. By an ELDER BROTHER. Small crown 8vo, antique paper, cloth gilt, gilt top, 3s. 6d.

The Doings of Raffles Haw.

By A. CONAN DOYLE, Author of "Micah Clarke," &c. Small crown 8vo, antique paper, cloth gilt, 5s.

"I Saw Three Ships," and other

Winter's Tales. By Q, Author of "Dead Man's Rock," &c. Crown 8vo, buckram, gilt, 6s.

The Blue Pavilions.

By Q, Author of "Dead Man's Rock," &c. Crown 8vo, buckram, gilt lettered, 6s.

"La Bella," and Others.

Being Certain Stories recollected by EGERTON CASTLE, Author of "Consequences." Crown 8vo, buckram, gilt lettered, 6s.

The Book of Pity and of Death.

By PIERRE LOTI. Translated by Mr. T. P. O'CONNOR, M.P. Small crown 8vo, antique paper, cloth gilt, 5s.

Father Stafford.

By ANTHONY HOPE, Author of "A Man of Mark." Crown 8vo, cloth gilt, 6s.

CASSELL, & COMPANY, LIMITED, London; Paris & Melbourne.

Picturesque Volumes.

The Picturesque Mediterranean.

With a Series of magnificent Illustrations from Original Designs made on the spot by leading Artists of the day. With Frontispiece in Colours from an Original Drawing by BIRKET FOSTER, R.I. Complete in 2 Vols., royal 4to, £2 2s. each.

Picturesque Europe.

With 65 Exquisite Steel Plates, and nearly 1,000 Original Illustrations. Complete in Five Vols., 18s. each. Vols. I. and II., embracing the British Isles, may be had bound in One Vol., 31s. 6d.

Picturesque America.

With 48 Exquisite Steel Plates and about 800 Original Wood Engravings. Complete in Four Vols., £2 2s. each.

Picturesque Canada.

With 600 Original Illustrations. Two Vols., £3 3s. each.

Egypt: Descriptive, Historical, and Picturesque. By Prof. G. EBERS. Translated by CLARA BELL, with Notes by SAMUEL BIRCH, LL.D., &c. &c. POPULAR EDITION. With 800 Original Illustrations. Two Vols., £2 2s.

CASSELL & COMPANY, LIMITED, London; Paris & Melbourne.

Biography, Belles Lettres, &c.

The Diplomatic Reminiscences
of Lord Augustus Loftus, P.C., G.C.B., 1837—
1862. With Portrait. Demy 8vo, 2 Vols., 32s.

Waterloo Letters.

Edited by Major-General H. T. SIBORNE. 21s.

The Career of Columbus.

By CHARLES ELTON, F.S.A. With Map, 10s. 6d.

Diary of the Salisbury Parliament.
By H. W. Lucy, Author of "A Diary of
Two Parliaments." Illustrated by HARRY FUR-
NISS. Medium 8vo, cloth gilt, 21s.

Lord Houghton. The Life,
Letters, and Friendships of Richard Monckton
Milnes, First Lord Houghton. By T. WEMYSS
REID. Two Vols., with Two Portraits, 32s.

Shaftesbury, The Life and Work
of the Seventh Earl of. By EDWIN HODDER.
Cheap Edition, Illustrated, 3s. 6d.

**The Journal of Marie Bashkirt-
seff.** Translated by MATHILDE BLIND. 7s. 6d.

Letters of Marie Bashkirtseff.

Translated by MARY J. SERRANO. 7s. 6d.

**Watts Phillips, Artist and Play-
wright.** By Miss E. WATTS PHILLIPS. With 32
Plates. 10s. 6d.

Richard Redgrave, C.B., R.A.
Memoir compiled from his Diary. By F. M.
REDGRAVE. Illustrated, 10s. 6d.

CASSELL & COMPANY, LIMITED, London; Paris & Melbourne.

Cassell & Company's Educational Works.

***Special Reading Books for Upper Standards
and Continuation Classes.***

The "Citizen Reader." By H. O. ARNOLD-FORSTER, M.P. With New and Special Illustrations. Strongly bound in cloth, 216 pages, price 1s. 6d.; PRESENTATION EDITION, 3s. 6d.

TWO HUNDRED AND FIFTH THOUSAND.

With an additional Coloured Plate and Chapter on the County Councils.

* * * A Scottish Edition of THE CITIZEN READER has been prepared for use in Scotch Schools, price 1s. 6d.

"The Laws of Every-day Life." By H. O. ARNOLD-FORSTER, M.P. Fully Illustrated and strongly bound in cloth, price 1s. 6d.

* * * A SPECIAL EDITION has been prepared and printed on green paper for the use of persons with weak eyesight. Price 2s.

UNIFORM WITH "THE CITIZEN READER."

Round the Empire. By G. R. PARKIN, of Princeton, New Brunswick, Lecturer to the Imperial Federation League. With a Preface by The Right Hon. THE EARL OF ROSEBERY, K.G. Fully Illustrated. Prettily and strongly bound in cloth. Price 1s. 6d.

Object Lessons from Nature. For the Use of all Departments of Elementary Schools. By Prof. L. C. MIALL, F.L.S., F.G.S. Very fully Illustrated. *Enlarged and Revised.* Crown 8vo, fancy cloth. *Two Parts,* 1s. 6d. each.

The Temperance Reader. By the Rev. J. DENNIS HIRD, M.A., London Diocesan Secretary, Church of England Temperance Society. Crown 8vo, 1s. 6d.

Adopted as a Reading Book by many of the principal School Boards in England and Scotland.

Cassell & Company, Limited; London, Paris & Melbourne.

Cassell & Company's Educational Works.

Special Reading Books (continued).

The "World in Pictures" Series.

These books contain interesting accounts and graphic studies of the Geography, Manners, and Customs of the various Countries mentioned in the list. The illustrations are profuse, beautiful, and educational. Each book is strongly bound in cloth of a striking and appropriate colour. 224 pages. Price 2s. each.

| | | |
|---|------------|--|
| <i>A Ramble Round France.</i> (French tricolor binding.) | [binding.] | <i>The Eastern Wonderland (Japan).</i> |
| <i>All the Russias.</i> (Imperial yellow tricolor binding.) | | <i>The Land of Temples (India).</i> |
| <i>Chats about Germany.</i> (German tricolor binding.) | | <i>Peeps into China.</i> |
| <i>The Land of the Pyramids (Egypt).</i> | | <i>Glimpses of South America.</i> |
| | | <i>Round Africa.</i> |
| | | <i>The Isles of the Pacific.</i> |

Short Studies from Nature.

An Elementary Science Reader. 336 pages. Illustrated with appropriate Coloured and other Drawings. 2s. 6d.

The World's Lumber-Room.

A Gossip about some of its contents. An interesting Elementary Science Reader. Illustrated. 316 pages. 2s. 6d.

Cassell's Agricultural Text-Books.

(THE "DOWNTON" SERIES.)

Edited by JOHN WRIGHTSON, M.R.A.C., F.C.S., Professor of Agriculture.

Farm Crops. By Professor WRIGHTSON. Illustrated. 2s. 6d.

Soils and Manures. By J. M. H. MUNRO, D.Sc. (London), F.I.C., F.C.S. Illustrated. 2s. 6d.

Live Stock. By Professor WRIGHTSON. Illustrated. 2s. 6d.

This World of Ours.

By H. O. ARNOLD-FORSTER, M.P., *Author of "The Citizen Reader," &c.* Being Introductory Lessons to the Study of Geography. Crown 8vo, 324 pages. Fully Illustrated. Price 3s. 6d.

“‘This World of Ours,’ we do not hesitate to say, should be in the possession of every teacher of Geography and of every schoolboy or girl of thirteen and upwards whose parents can afford to buy it.”—*Guardian.*

Domestic Economy.

The "Making of the Home:" A Reading Book in *Domestic Economy* for School and Home Use. By Mrs. SAMUEL A. BARNETT. *Fifty-fifth Thousand.* Extra fcap. 8vo, cloth, price 1s. 6d.

The "Schoolmaster" says:—"A lofty tone pervades every page, and proves that Mrs. Barnett earnestly desires that every girl may be a true helpmeet to her husband, should she have one."

The "Athenæum" says:—"It is an excellent Manual of Domestic Economy for the poorer classes."

The "Practical Teacher" says:—"The tone of the book is so healthy and affectionate, that we are delighted to highly recommend it to all interested in the welfare of our country."

The "Schoolmistress" says:—"This little Manual of Domestic Economy is quite a novelty. It makes the study exceedingly pleasant, and the quaint manner in which facts are stated make them remembered without effort. Every subject which influences the making of the home is dealt with in a most concise and taking manner."

The attention of Schoolmistresses is requested in connection with this well-known and valuable work upon Domestic Economy. It has been pronounced to be one of the best and simplest manuals on *House-wifery* that could be placed in the hands of Schoolgirls.

Cookery for Schools. By LIZZIE HERITAGE (First Class Diploma Cookery, National Training School, and Domestic Economy, Society of Arts). 6d.

Laundry Work (How to Teach It). By Mrs. E. LORD, Superintendent of Laundry Work to the School Board for London. Extra foolscap 8vo, 64 pp., cloth, price 6d.

"Mrs. Lord has succeeded in making this work simple, concise, and practical."—*Schoolmaster.*

“Things New and Old.”

A New and Original Series of
HISTORICAL READING BOOKS FOR SCHOOLS.

By H. O. ARNOLD-FORSTER, M.P.

Fully Illustrated and Strongly Bound.

| | | | | |
|---------|------------|---------------|---|---------------------------------|
| BOOK I. | 112 pages. | Price 9d. | } | BOOKS I. & II. (<i>ready</i>) |
| II. | 128 pages. | Price 9d. | | III. & IV. (<i>shortly</i>). |
| III. | 176 pages. | Price 1s. | | |
| IV. | 216 pages. | Price 1s. 3d. | | |

BOOKS V., VI., and VII. *in preparation.*

A few Notices of the Press.

“A word of warm commendation is due to Mr. Arnold-Forster's praiseworthy and patriotic attempt to encourage the intelligent study of our national history in elementary schools by his contribution to Cassell's 'Modern School' Series of **THINGS NEW AND OLD; OR, STORIES FROM ENGLISH HISTORY** for the use of schools.”—*The Times*.

“The author has incontestably done his work well, and we congratulate him upon his insight and judgment. The large printing and helpful illustrations in Books I. and II. will attract the little folk. We hope that the books will be seen by many teachers; if once known, they are certain of an honourable and educative career.”—*Schoolmaster*.

“The author has proceeded on lines which children may be trusted to appreciate, and which will do more than all the elementary history-books ever compiled to give them intelligent views of the historic past of their own country.”—*Rock*.

“A thoughtful and excellent preface explains the intention which governs this excellent addition to Cassell's 'Modern School' Series. It contains a number of stories from English history, for the use of schools, arranged in accordance with the new Code, and finely illustrated. The language is plain, the style graphic, yet simple, the selection well made.”—*Edinburgh Educational News*.

“They are well illustrated, strongly bound, and take their material from the most striking incidents in our history. They make their subject so interesting and attractive that they will doubtless meet with the same wide success as their author's 'Citizen Reader.'”—*Scotsman*.

“Written in an easy, simple, conversational style, and are well illustrated. There is nothing in them that a child cannot readily understand and easily remember.”—*Manchester Examiner*.

CASSELL & COMPANY, LIMITED, *Ludgate Hill, London.*

Illustrated, Fine-Art, and other Volumes.

Abbeys and Churches of England and Wales, The: Descriptive, Historical, Pictorial. Two Series. 21s. each.

A Blot of Ink. Translated from the French by Q and PAUL FRANCKE. 5s.

Across Thibet. By GABRIEL BONVALOT. Two Vols. 32s.

Adventure, The World of. Fully Illustrated. In Three Vols. 9s. each.

Africa and its Explorers, The Story of. By DR. ROBERT BROWN, F.L.S. Illustrated. Vol. I., 7s. 6d.

Anthea. By CÉCILE CASSAVETTI (a Russian). A Sensational Story, based on authentic facts of the time of the Greek War of Independence. 10s. 6d.

Arabian Nights Entertainments, Cassell's Pictorial. 10s. 6d.

Architectural Drawing. By R. PHRNÉ SPIERS. Illustrated. 10s. 6d.

Art, The Magazine of. Yearly Vol. With 12 Photogravures, Etchings, &c., and about 400 Illustrations. 16s.

Artistic Anatomy. By Prof. M. DUVAL. *Cheap Edition.* 3s. 6d.

Atlas, The Universal. A New and Complete General Atlas of the World, with 117 Pages of Maps, handsomely produced in Colours, and a Complete Index to over 100,000 Names. Cloth, 30s. net; or half-morocco, 35s. net.

Bashkirtseff, Marie, The Journal of. *Cheap Edition.* 7s. 6d.

Bashkirtseff, Marie, The Letters of. 7s. 6d.

Beetles, Butterflies, Moths, and Other Insects. With 12 Coloured Plates from "Der Insekten-Sammler." 3s. 6d.

Biographical Dictionary, Cassell's New. 7s. 6d.

Birds' Nests, Eggs, and Egg-Collecting. By R. KEARTON. Illustrated with 16 Coloured Plates. 5s.

Black America. By W. LAIRD CLOWES. 6s.

Blue Pavilions, The. By Q, Author of "Dead Man's Rock," &c. 6s.

Bob Lovell's Career. A Story of American Railway Life. By EDWARD S. ELLIS. 5s.

Breechloader, The, and How to Use It. By W. W. GREENER. 2s.

British Ballads. With 275 Original Illustrations. In Two Vols. 15s.

British Battles on Land and Sea. By JAMES GRANT. With about 600 Illustrations. Three Vols., 4to, £1 7s.; *Library Edition.* £1 10s.

British Battles, Recent. Illustrated. 4to, 9s.; *Library Edition.* 10s.

Bunyan's Pilgrim's Progress and The Holy War, Cassell's Illustrated Edition of. With 200 Original Illustrations. Cloth, 16s.

Butterflies and Moths, European. With 61 Coloured Plates. 35s.

Canaries and Cage-Birds, The Illustrated Book of. With 56 Fac-simile Coloured Plates, 35s. Half-morocco, £2 5s.

Carnation Manual, The. Edited and Issued by the National Carnation and Picotee Society (Southern Section). 3s. 6d.

Cassell's Family Magazine. Yearly Vol. Illustrated. 9s.

Cathedrals, Abbeys, and Churches of England and Wales. Descriptive, Historical, Pictorial. *Popular Edition.* Two Vols. 25s.

Celebrities of the Century. *Cheap Edition.* 10s. 6d.

Cities of the World. Four Vols. Illustrated. 7s. 6d. each.

Civil Service, Guide to Employment in the. 3s. 6d.

Climate and Health Resorts. By DR. BURNETT YEO. 7s. 6d.

Clinical Manuals for Practitioners and Students of Medicine. A List of Volumes forwarded post free on application to the Publishers.

Colonist's Medical Handbook, The. By E. A. BARTON M.R.C.S. 2s. 6d.

Colour. By Prof. A. H. CHURCH. With Coloured Plates. 3s. 6d.

Selections from Cassell & Company's Publications.

Columbus, The Career of. By CHARLES ELTON, Q.C. 10s. 6d.
Commercial Botany of the Nineteenth Century. 3s. 6d.
Conning Tower, In a. By H. O. ARNOLD-FORSTER, M.P. 1s.
Cookery, A Year's. By PHYLLIS BROWNE. *New and Enlarged Edition.* 3s. 6d.
Cookery, Cassell's Dictionary of. Containing about Nine Thousand Recipes. 7s. 6d.; Roxburgh, 10s. 6d.
Cookery, Cassell's Shilling. 384 pages, limp cloth, 2s.
Cookery, Vegetarian. By A. G. PAYNE. 1s. 6d.
Cooking by Gas, The Art of. By MARIE J. SUGG. Illustrated. 3s. 6d.
Countries of the World, The. By ROBERT BROWN, M.A., Ph.D., &c. Complete in Six Vols., with about 750 Illustrations. 4to, 7s. 6d. each.
Cromwell, Oliver. By J. ALLANSON PICTON, M.P. 5s.
Cyclopaedia, Cassell's Concise. Brought down to the latest date. With about 600 Illustrations. *Cheap Edition.* 7s. 6d.
Cyclopaedia, Cassell's Miniature. Containing 30,000 subjects. 3s. 6d.
Daughter of the South, A; and Shorter Stories. By MRS. BURTON HARRISON. 4s.
Dickens, Character Sketches from. FIRST, SECOND, and THIRD SERIES. With Six Original Drawings in each by F. BARNARD. 21s. each.
Dick Whittington, A Modern. By JAMES PAYN. Two Vols., 21s.
Disraeli, Benjamin, Personal Reminiscences of. By H. LAKE. 3s. 6d.
Dog, Illustrated Book of the. By VERO SHAW, B.A. With 28 Coloured Plates. Cloth bevelled, 35s.; half-morocco, 45s.
Dog, The. By IDSTONE. Illustrated. 2s. 6d.
Domestic Dictionary, The. Illustrated. Cloth, 7s. 6d.
Doré Bible, The. With 200 Full-page Illustrations by GUSTAVE DORÉ. Cloth gilt, gilt edges, 15s.
Doré Gallery, The. With 250 Illustrations by DORÉ. 4to, 42s.
Doré's Dante's Inferno. Illustrated by GUSTAVE DORÉ. With Introduction by A. J. BUTLER. Cloth gilt or buckram, 7s. 6d.
Doré's Milton's Paradise Lost. Illustrated by DORÉ. 4to, 21s.
Dr. Dumáry's Wife. A Novel. By MAURUS JÓKAI. 6s.
Earth, Our, and its Story. By DR. ROBERT BROWN, F.I.S. With Coloured Plates and numerous Wood Engravings. Three Vols. 9s. each.
Edinburgh, Old and New. With 600 Illustrations. Three Vols. 9s. each.
Egypt: Descriptive, Historical, and Picturesque. By Prof. G. EBERS. With 800 Original Engravings. *Popular Edition.* In Two Vols. 42s.
Electricity in the Service of Man. Illustrated. 9s.
Electricity, Age of. By PARK BENJAMIN, PH.D. 7s. 6d.
Electricity, Practical. By Prof. W. E. AYRTON. 7s. 6d.
Encyclopaedic Dictionary, The. In Fourteen Divisional Vols., 10s. 6d. each; or Seven Vols., half-morocco, 21s. each; half-russia, 25s.
England, Cassell's Illustrated History of. With 2,000 Illustrations. Ten Vols., 4to, 9s. each. *Revised Edition.* Vols. I. to V., 9s. each.
English Dictionary, Cassell's. Giving definitions of more than 100,000 Words and Phrases. Cloth, 7s. 6d. *Cheap Edition.* 3s. 6d.
English History, The Dictionary of. *Cheap Edition.* 10s. 6d.
English Literature, Dictionary of. By W. DAVENPORT ADAMS. *Cheap Edition.* 7s. 6d.; Roxburgh, 10s. 6d.
English Literature, Library of. By Prof. HENRY MORLEY.
VOL. I.—SHORTER ENGLISH POEMS. 7s. 6d.
VOL. II.—ILLUSTRATIONS OF ENGLISH RELIGION. 7s. 6d.
VOL. III.—ENGLISH PLAYS. 7s. 6d.
VOL. IV.—SHORTER WORKS IN ENGLISH PROSE. 7s. 6d.
VOL. V.—SKETCHES OF LONGER WORKS IN ENGLISH VERSE AND PROSE. 7s. 6d.

Selections from Cassell & Company's Publications.

English Literature, Morley's First Sketch of. *Revised Edition.* 7s. 6d.
English Literature, The Story of. By ANNA BUCKLAND. 3s. 6d.
English Writers. By Prof. HENRY MORLEY. Vols. I. to IX. 5s. each.
Æsop's Fables. Illustrated by ERNEST GRISSET. Cloth, 3s. 6d.
Etiquette of Good Society. 1s. ; cloth, 1s. 6d.
Fairway Island. By HORACE HUTCHINSON. With 4 Full-page Plates. 5s.
Faith Doctor, The. A Novel. By Dr. EDWARD EGGLESTON. 6s.
Family Physician, The. By Eminent PHYSICIANS and SURGEONS. *New and Revised Edition.* Cloth, 21s. ; Roxburgh, 25s.
Father Stafford. A Novel. By ANTHONY HOPE. 6s.
Field Naturalist's Handbook, The. By the Rev. J. G. WOOD and Rev. THEODORE WOOD. 5s.
Figuer's Popular Scientific Works. With Several Hundred Illustrations in each. Newly Revised and Corrected. 3s. 6d. each.
THE HUMAN RACE. | MAMMALIA. | OCEAN WORLD.
THE INSECT WORLD. REPTILES AND BIRDS.
WORLD BEFORE THE DELUGE. THE VEGETABLE WORLD.
Flora's Feast. A Masque of Flowers. Penned and Pictured by WALTER CRANE. With 40 Pages in Colours. 5s.
Football, The Rugby Union Game. Edited by REV. F. MARSHALL. Illustrated. 7s. 6d.
Four Years in Parliament with Hard Labour. By C. W. RADCLIFFE COOKE. *Third Edition.* 1s.
France as It Is. By ANDRÉ LEBON and PAUL PELET. With Three Maps. Crown 8vo, cloth, 7s. 6d.
Garden Flowers, Familiar. By SHIRLEY HIBBERD. With Coloured Plates by F. E. HULME, F.L.S. Complete in Five Series. 12s. 6d. each.
Gardening, Cassell's Popular. Illustrated. Four Vols. 5s. each.
George Saxon, The Reputation of. By MORLEY ROBERTS. 5s.
Gilbert, Elizabeth, and her Work for the Blind. By FRANCES MARTIN. 2s. 6d.
Gleanings from Popular Authors. Two Vols. With Original Illustrations. 40, 9s. each. Two Vols. in One, 15s.
Gulliver's Travels. With 88 Engravings by MORTEN. *Cheap Edition.* Cloth, 3s. 6d. ; cloth gilt, 5s.
Gun and its Development, The. By W. W. GREENER. With 500 Illustrations. 10s. 6d.
Health at School. By CLEMENT DUKES, M.D., B.S. 7s. 6d.
Heavens, The Story of the. By Sir ROBERT STAWELL BALL, LL.D., F.R.S., F.R.A.S. With Coloured Plates. *Popular Edition.* 12s. 6d.
Heroes of Britain in Peace and War. With 300 Original Illustrations. *Cheap Edition.* Two Vols., 3s. 6d. each; or Two Vols. in One, cloth gilt, 7s. 6d.
History, A Foot-note to. Eight Years of Trouble in Samoa. By ROBERT LOUIS STEVENSON. 6s.
Historic Houses of the United Kingdom. Profusely Illustrated. 10s. 6d.
Holiday Studies of Wordsworth. By Rev. F. A. MALLESON, M.A. 5s.
Hors de Combat; or, Three Weeks in a Hospital. Founded on Facts. By GERTRUDE & ETHEL ARMITAGE SOUTHAM. Illustrated. 5s.
Horse, The Book of the. By SAMUEL SIDNEY. With 28 Fac-simile Coloured Plates. *Enlarged Edition.* Demy 4to, 35s. ; half-morocco, 45s.
Houghton, Lord: The Life, Letters, and Friendships of Richard Monckton Milnes, First Lord Houghton. By T. WEMVASS RID. In Two Vols. with Two Portraits. 32s.
Household, Cassell's Book of the. Complete in Four Vols. 5s. each. Four Vols. in Two, half-morocco, 25s.
Hygiene and Public Health. By B. ARTHUR WHITELEGGE, M.D. 7s. 6d.

Selections from Cassell & Company's Publications.

India, Cassell's History of. By JAMES GRANT. With about 400 Illustrations. 2 Vols., 9s. each. One Vol., 15s.

In-door Amusements, Card Games, and Fireside Fun, Cassell's Book of. *Cheap Edition.* 2s.

Into the Unknown: A Romance of South Africa. By LAWRENCE FLETCHER. 4s.

"I Saw Three Ships," and other Winter's Tales. By Q, Author of "Dead Man's Rock," &c. 6s.

Italy from the Fall of Napoleon I. in 1815 to 1890. By J. W. PROBYN. *New and Cheaper Edition.* 3s. 6d.

Joy and Health. By MAKTELLIUS. 3s. 6d. *Édition de Luxe,* 7s. 6d.

Kennel Guide, The Practical. By Dr. GORDON STABLES. 1s.

Khiva, A Ride to. By Col. FRED. BURNABY. 1s. 6d.

"La Bella," and Others. Being Certain Stories Recollected by Egerton Castle, Author of "Consequences." 6s.

Ladies' Physician, The. By a London Physician. 6s.

Lady's Dressing-room, The. Translated from the French of BARONESS HAFFE by LADY COLIN CAMPBELL. 3s. 6d.

Law, How to Avoid. By A. J. WILLIAMS, M.P. 1s. *Cheap Edition.*

Legends for Lionel. By WALTER CRANE. Coloured Illustrations. 5s.

Leona. By Mrs. MOLESWORTH. 6s.

Lett's Diaries and other Time-saving Publications published exclusively by CASSELL & COMPANY. (*A list free on application.*)

Little Minister, The. By J. M. BARRIE. One Vol. 6s.

Locomotive Engine, The Biography of a. By HENRY FRITH. 5s.

Loftus, Lord Augustus, The Diplomatic Reminiscences of, 1837-1862. With Portrait. Two Vols., 32s.

London, Greater. By EDWARD WALFORD. Two Vols. With about 400 Illustrations. 9s. each.

London, Old and New. Six Vols., each containing about 200 Illustrations and Maps. Cloth, 9s. each.

London Street Arabs. By Mrs. H. M. STANLEY (DOROTHY TENNANT). A Collection of Pictures. Descriptive Text by the Artist. 5s.

Mathew, Father, His Life and Times. By F. J. MATHEW. 2s. 6d.

Medicine Lady, The. By L. T. MEADE. Three Vols., 31s. 6d.

Medicine, Manuals for Students of. (*A List forwarded post free.*)

Modern Europe, A History of. By C. A. FYFFE, M.A. Complete in Three Vols. 12s. each.

Mount Desolation, An Australian Romance. By W. CARLTON DAWE. 5s.

Music, Illustrated History of. By EMIL NAUMANN. Edited by the Rev. Sir F. A. GORE OUSELEY, Bart. Illustrated. Two Vols. 31s. 6d.

Musical and Dramatic Copyright, The Law of. By EDWARD CUTLER, THOMAS EUSTACE SMITH, and FREDERIC E. WEATHERLY, Barristers-at-Law. 3s. 6d.

Napier, Life and Letters of the Rt. Hon. Sir Joseph, Bart., LL.D., &c. By A. C. EWALD, F.S.A. *New and Revised Edition.* 7s. 6d.

National Library, Cassell's. In Volumes. Paper covers, 3d.; cloth, 6d. (*A Complete List of the Volumes post free on application.*)

Natural History, Cassell's Concise. By E. PERCEVAL WRIGHT, M.A., M.D., F.L.S. With several Hundred Illustrations. 7s. 6d.

Natural History, Cassell's New. Edited by Prof. P. MARTIN DUNCAN, M.B., F.R.S., F.G.S. Complete in Six Vols. With about 2,000 Illustrations. Cloth, 9s. each.

Selections from Cassell & Company's Publications.

Nature's Wonder Workers. By KATE R. LOVELL. Illustrated. 5s.
Nursing for the Home and for the Hospital, A Handbook of.
By CATHERINE J. WOOD. *Cheap Edition.* 1s. 6d.; cloth, 2s.
Nursing of Sick Children, A Handbook for the. By CATHERINE
J. WOOD. 2s. 6d.
O'Driscoll's Weird, and other Stories. By A. WERNER. 5s.
Odyssey, The Modern; or, Ulysses up to Date. Cloth gilt, 10s. 6d.
Ohio, The New. A Story of East and West. By EDWARD EVERETT
HALE. 6s.
Oil Painting, A Manual of. By the Hon. JOHN COLLIER. 2s. 6d.
Orchid Hunter, Travels and Adventures of an. By ALBERT
MILLICAN. Fully Illustrated. 12s. 6d.
Our Own Country. Six Vols. With 1,200 Illustrations. 7s. 6d. each.
Out of the Jaws of Death. By FRANK BARRETT. 3 Vols., 31s. 6d.
Paddles and Politics down the Danube. By POULTNEY BIGELOW.
With Illustrations by the Author, 3s. 6d.
Painting, The English School of. *Cheap Edition.* 3s. 6d.
Painting, Practical Guides to. With Coloured Plates:—

| | |
|--------------------------------------|---|
| MARINE PAINTING. 5s. | TREE PAINTING. 5s. |
| ANIMAL PAINTING. 5s. | WATER-COLOUR PAINTING. 5s. |
| CHINA PAINTING. 5s. | NEUTRAL TINT. 5s. |
| FIGURE PAINTING. 7s. 6d. | SEPIA, in Two Vols., 3s. each; or in One Vol., 5s. |
| ELEMENTARY FLOWER PAINT- ING. 3s. | FLOWERS, AND HOW TO PAINT THEM. 5s. |
| FLOWER PAINTING. 5s. | |

People I've Smiled with. By MARSHALL P. WILDER. 2s.; cloth, 2s. 6d.
Peoples of the World, The. In Six Vols. By Dr. ROBERT BROWN.
Illustrated. 7s. 6d. each.
Perfect Gentleman, The. By the Rev. A. SMYTHE PALMER, D.D. 3s. 6d.
Phillips, Watts, Artist and Playwright. By Miss E. WATTS
PHILLIPS. With 32 Plates. 10s. 6d.
Photography for Amateurs. By T. C. HEPWORTH. *Enlarged and
Revised Edition.* Illustrated. 1s.; or cloth, 1s. 6d.
Phrase and Fable, Dictionary of. By the Rev. Dr. BREWER. *Cheap
Edition, Enlarged.* cloth, 3s. 6d.; or with leather back, 4s. 6d.
Picturesque America. Complete in Four Vols., with 48 Exquisite Steel
Plates and about 800 Original Wood Engravings. £2 2s. each.
Picturesque Australasia, Cassell's. With upwards of 1,000 Illustrations.
Complete in Four Vols. 7s. 6d. each.
Picturesque Canada. With 600 Original Illustrations. 2 Vols. £6 6s.
the Set.
Picturesque Europe. Complete in Five Vols. Each containing
13 Exquisite Steel Plates, from Original Drawings, and nearly 200
Original Illustrations. Cloth, £2 1s.; half-morocco, £3 1s. 10s.; morocco
gilt, £5 2s. 10s. POPULAR EDITION. In Five Vols., 18s. each.
Picturesque Mediterranean, The. With Magnificent Original Illustrations
by the leading Artists of the Day. Complete in Two Vols. £2 2s. each.
Pigeon Keeper, The Practical. By LEWIS WRIGHT. Illustrated. 3s. 6d.
Pigeons, The Book of. By ROBERT FULTON. Edited and Arranged by
L. WRIGHT. With 50 Coloured Plates, 31s. 6d.; half-morocco. £2 2s.
Pity and of Death, The Book of. By PIERRE LOTI. Translated by
T. P. O'CONNOR, M.P. 5s.
Playthings and Parodies. Short Stories by BARRY PAIN. 5s.
Poems, Aubrey de Vere's. A Selection. Edited by J. DENNIS. 3s. 6d.
Poetry, The Nature and Elements of. By E. C. STEDMAN. 6s.
Poets, Cassell's Miniature Library of the. Price 1s. each Vol.
Police Code, and Manual of the Criminal Law. By C. E. HOWARD
VINCENT, M.P. 2s.

Selections from Cassell & Company's Publications.

Portrait Gallery, The Cabinet. First, Second, and Third Series, each containing 36 Cabinet Photographs of Eminent Men and Women. With Biographical Sketches. 15s. each.

Poultry Keeper, The Practical. By L. WRIGHT. Illustrated. 3s. 6d.

Poultry, The Book of. By LEWIS WRIGHT. Popular Edition. 10s. 6d.

Poultry, The Illustrated Book of. By LEWIS WRIGHT. With Fifty Coloured Plates. New and Revised Edition. Cloth, 31s. 6d.

Queen Summer; or, The Tourney of the Lily and the Rose. With Forty Pages of Designs in Colours by WALTER CRANE. 6s.

Queen Victoria, The Life and Times of. By ROBERT WILSON. Complete in Two Vols. With numerous Illustrations. 9s. each.

Rabbit-Keeper, The Practical. By CUNICULUS. Illustrated. 3s. 6d.

Raffles Haw, The Doings of. By A. CONAN DOYLE. 5s.

Railway Guides, Official Illustrated. With Illustrations, Maps, &c. Price 1s. each; or in cloth, 2s. each.

GREAT EASTERN RAILWAY.

GREAT NORTHERN RAILWAY.

LONDON, BRIGHTON AND SOUTH COAST RAILWAY.

LONDON AND NORTH-WESTERN RAILWAY.

Railway Library, Cassell's. Crown 8vo, boards, 2s. each.

METZEROTT, SHOEMAKER. By KATHARINE P. WOODS.

DAVID TODD. By DAVID MACLURE. THE ASTONISHING HISTORY OF TROY TOWN. By Q.

THE ADMIRABLE LADY BIDDY FANE. By FRANK BARRETT.

COMMODORE JUNK. By G. MANVILLE FENN.

ST. CUTHBERT'S TOWER. By FLORENCE WARDEN.

THE MAN WITH A THUMB. By BARCLAY NORTH.

BY RIGHT NOT LAW. By R. SHERRARD.

WITHIN SOUND OF THE WEIR. By THOMAS ST. E. HAKE.

UNDERR A STRANGE MASK. By FRANK BARRETT.

THE COOMBSBERRY MYSTERY. By JAMES COLWELL.

DEAD MAN'S ROCK. By Q.

A QUEEN RACE. By W. WESTALL.

CAPTAIN TRAFALGAR. By WESTALL and LAURIE.

Redgrave, Richard, C.B., R.A. Memoir. Compiled from his Diary. By F. M. REDGRAVE. 10s. 6d.

Richard, Henry, M.P. A Biography. By CHARLES S. MIALL. 7s. 6d.

Rivers of Great Britain: Descriptive, Historical, Pictorial. THE ROYAL RIVER: The Thames, from Source to Sea. With Several Hundred Original Illustrations. Original Edition, £2 2s.; Popular Edition, 16s.

RIVERS OF THE EAST COAST. With numerous highly finished Engravings. With Etching as Frontispiece, 42s. Popular Edition, 16s.

Robinson Crusoe, Cassell's New Fine-Art Edition of. With upwards of 100 Original Illustrations. 7s. 6d.

Romance, The World of. Illustrated. Cloth, 9s.

Russia, Through, on a Mustang. By THOMAS STEVENS. 7s. 6d.

Russo-Turkish War, Cassell's History of. With about 500 Illustrations. Two Vols. 9s. each.

Salisbury Parliament, A Diary of the. By H. W. LUCY. Illustrated by HARRY FURNISS. 21s.

GREAT WESTERN RAILWAY.
LONDON AND SOUTH-WESTERN RAILWAY.

MIDLAND RAILWAY.

SOUTH-EASTERN RAILWAY.

THE PHANTOM CITY. By W. WESTALL.

JACK GORDON, KNIGHT OF RAMPART, GOATHAM, 1083. By BARCLAY NORTH.

THE DIAMOND BUTTON. By BARCLAY NORTH.

ANOTHER'S CRIME. By JULIAN HAWTHORNE.

THE YOKE OF THE THORAH. By SIDNEY LUSKA.

WHO IS JOHN NOMAN? By CHARLES HENRY BECKETT.

THE TRAGEDY OF BRINKWATER. By MARTHA L. MOODEY.

AN AMERICAN PENMAN. By JULIAN HAWTHORNE.

SECTION 556; or, THE FATAL LETTER. By JULIAN HAWTHORNE.

THE BROWN STONE BOY. By W. H. BISHOP.

A TRAGIC MYSTERY. By JULIAN HAWTHORNE.

THE GREAT BANK ROBBERY. By JULIAN HAWTHORNE.

Selections from Cassell & Company's Publications.

Saturday Journal, Cassell's. Yearly Volume, cloth, 7s. 6d. Science for All. Edited by Dr. ROBERT BROWN. *Revised Edition.* Illustrated. Five Vols. 9s. each. Science, The Year Book of. Edited by Prof. BONNEV, F.R.S. 7s. 6d. Sculpture, A Primer of. By E. ROSCOR MULLINS. With illustrations. 2s. 6d. Sea, The: Its Stirring Story of Adventure, Peril, and Heroism. By F. WHYMPER. With 400 Illustrations. Four Vols. 7s. 6d. each. Secret of the Lamas, The. A Tale of Thibet. Crown 8vo, 5s. Shaftesbury, The Seventh Earl of, K.G., The Life and Work of. By EDWIN HODDER. *Cheap Edition.* 3s. 6d. Shakespeare, The Plays of. Edited by Professor HENRY MORLEY. Complete in 13 Vols., cloth, 21s.; half-morocco, cloth sides, 42s. Shakespeare, Cassell's Quarto Edition. Containing about 600 Illustrations by H. C. SELOUS. Complete in Three Vols., cloth gilt, £3 3s. Shakespeare, Miniature. Illustrated. In Twelve Vols., in box, 12s.; or in Red Paste Grain (box to match), with spring catch, 21s. Shakspere, The International. *Edition de Luxe.* "KING HENRY VIII." Illustrated by SIR JAMES LINTON, P.R.I. (Prices on application.) "OTHELLO." Illustrated by FRANK DICKSEE, R.A. £3 10s. "KING HENRY IV." Illustrated by EDUARD GRÜTZNER. £3 10s. "AS YOU LIKE IT." Illustrated by ÉMILE BAYARD. £3 10s. "ROMEO AND JULIET." Illustrated by F. DICKSEE, R.A. Is now out of print, and scarce. Shakspere, The Leopold. With 400 Illustrations. *Cheap Edition.* 3s. 6d. Cloth gilt, gilt edges, 5s.; Roxburgh, 7s. 6d. Shakspere, The Royal. With Steel Plates and Wood Engravings. Three Vols. 15s. each. Sketching, The Art of. From the French of G. FRAIPONT. By CLARA BELL. With 50 Illustrations. 2s. 6d. Smuggling Days and Smuggling Ways; or, The Story of a Lost Art. By Commander the Hon. HENRY N. SHORE, R.N. With numerous Plans and Drawings by the Author. 7s. 6d. Snare of the Fowler, The. By Mrs. ALEXANDER. 3 Vols., 31s. 6d. Social Welfare, Subjects of. By Sir LYON PLAYFAIR, K.C.B. 7s. 6d. Sports and Pastimes, Cassell's Complete Book of. *Cheap Edition.* With more than 900 Illustrations. Medium 8vo, 992 pages, cloth, 3s. 6d. Squire, The. By Mrs. PARR. 3 Vols., 31s. 6d. Standard Library, Cassell's. Stiff covers, 1s. each; cloth, 2s. each.

| | | |
|--------------------------------|---|-----------------------------|
| Shirley. | Adventures of Mr. Ledbury. | Jack Hinton. |
| Coningsby. | Ivanhoe. | Poe's Works. |
| Mary Barton. | Oliver Twist. | Old Mortality. |
| The Antiquary. | Selections from Hood's Works. | The Hour and the Man. |
| Nicholas Nickleby (Two Vols.). | Longfellow's Prose Works. | Handy Andy. |
| Jane Eyre. | Sense and Sensibility. | Scarlet Letter. |
| Wuthering Heights. | Lyttton's Plays. | Pickwick (Two Vols.). |
| Dombeey and Son (Two Vols.). | Tales, Poems, and Sketches, Bret Harte. | Last of the Mohicans. |
| The Prairie. | Martin Chuzzlewit (Two Vols.). | Pride and Prejudice. |
| Night and Morning. | The Prince of the House of David. | Yellowplush Papers. |
| Kenilworth. | Sheridan's Plays. | Tales of the Borders. |
| Ingoldsby Legends. | Uncle Tom's Cabin. | Last Day of Pompeii. |
| Tower of London. | Deerslayer. | American Humour. |
| The Pioneers. | Rome and the Early Christians. | Sketches by Boz. |
| Charles O'Malley. | The Trials of Margaret Lyndsay. | Macaulay's Lays and Essays. |
| Barnaby Rudge. | Harry Lorrequer. | |
| Cakes and Ale. | Eugene Aram. | |
| The King's Own. | | |
| People I have Met. | | |
| The Pathfinder. | | |
| Evelina. | | |
| Scott's Poems. | | |
| Last of the Barons. | | |

Stanley in East Africa, Scouting for. By T. STEEVES. 7s. 6d. Star-Land. By Sir R. S. BALL, LL.D., &c. Illustrated. 6s.

Selections from Cassell & Company's Publications.

Storehouse of General Information, Cassell's. With Wood Engravings, Maps, and Coloured Plates. In Vols., 5s. each.
Story of Francis Cludde, The. By STANLEY J. WEYMAN. 6s.
Story Poems. For Young and Old. Edited by E. DAVENPORT. 6s.
Strange Doings in Strange Places. Complete Sensational Stories. 5s.
Successful Life, The. By AN ELDER BROTHER. 3s. 6d.
Sybil Knox; or, Home Again: a Story of To-day. By EDWARD E. HALE, Author of "East and West," &c. 6s.
Teaching in Three Continents. By W. C. GRASBY. 6s.
Thackeray, Character Sketches from. Six New and Original Drawings by FREDERICK BARNARD, reproduced in Photogravure. 21s.
The "Short Story" Library.
Noughts and Crosses. By Q. 5s.
Otto the Knight, &c. By OCTAVE THANHT. 5s.
Fourteen to One, &c. By ELIZABETH STUART PHELPS. 5s.
The "Treasure Island" Series. 3s. 6d. each.
King Solomon's Mines. By H. RIDER HAGGARD.
Kidnapped. By R. L. STEVENSON.
Treasure Island. By ROBERT LOUIS STEVENSON.
Trees, Familiar. By G. S. BOULGER, F.L.S. Two Series. With 40 full-page Coloured Plates by W. H. J. BOOT. 12s. 6d. each.
"Unicode": the Universal Telegraphic Phrase Book. Desk or Pocket Edition. 2s. 6d.
United States, Cassell's History of the. By the late EDMUND OLLIER. With 600 Illustrations. Three Vols. 9s. each.
Universal History, Cassell's Illustrated. Four Vols. 9s. each.
Vernon Heath's Reminiscences. 10s. 6d.
Verses Grave and Gay. By ELLEN THORNE CROFT FOWLER. 3s. 6d.
Vision of Saints, A. By LEWIS MORRIS. *Édition de Luxe.* With 20 Full-page Illustrations. 21s.
Waterloo Letters. Edited by MAJOR-GENERAL H. T. SIBORNE, late Colonel R.E. With numerous Maps and Plans of the Battlefield. 21s.
Wild Birds, Familiar. By W. SWAYLAND. Four Series. With 40 Coloured Plates in each. 12s. 6d. each.
Wild Flowers, Familiar. By F. E. HULME, F.L.S., F.S.A. Five Series. With 40 Coloured Plates in each. 12s. 6d. each.
Wood, Rev. J. G., Life of the. By the Rev. THEODORE WOOD. Extra crown 8vo, cloth. *Cheap Edition.* 5s.
Work. An Illustrated Journal for all Workmen. Yearly Vol., 7s. 6d.
World of Wit and Humour, The. With 400 Illustrations. 7s. 6d.
World of Wonders. Two Vols. With 400 Illustrations. 7s. 6d. each.
Wrecker, The. By ROBERT LOUIS STEVENSON and LLOYD OSBOURNE. Illustrated. 6s.
Yule Tide. Cassell's Christmas Annual. 1s.
Zero, the Slave: A Romance of Equatorial Africa. By LAWRENCE FLETCHER. 4s.

ILLUSTRATED MAGAZINES.

The Quiver. ENLARGED SERIES. Monthly, 6d.
Cassell's Family Magazine. Monthly, 7d.
"Little Folks" Magazine. Monthly, 6d.
The Magazine of Art. Monthly, 1s.
"Chums." Illustrated Paper for Boys. Weekly, 1d.; Monthly, 6d.
Cassell's Saturday Journal. Weekly, 1d.; Monthly, 6d.
Work. Weekly, 1d.; Monthly, 6d.

CASSELL'S COMPLETE CATALOGUE, containing particulars of upwards of One Thousand Volumes, will be sent post free on application.

CASSELL & COMPANY, LIMITED, Ludgate Hill, London.

Bibles and Religious Works.

Bible, Cassell's Illustrated Family. With 900 Illustrations. Leather, gilt edges, £2 10s.

Bible Educator, The. Edited by the Very Rev. Dean PLUMPTRE, D.D., With Illustrations, Maps, &c. Four Vols., cloth, 6s. each.

Bible Student in the British Museum, The. By the Rev. J. G. KITCHIN, M.A. *New and Revised Edition.* 1s. 4d.

Biblewomen and Nurses. Yearly Volume. Illustrated. 3s.

Bunyan's Pilgrim's Progress and Holy War. With 200 Illustrations. With a New Life of Bunyan by the Rev. JOHN BROWN, B.A., D.D. Cloth, 16s.

Bunyan's Pilgrim's Progress. Illustrated throughout. Cloth, 3s. 6d.; cloth gilt, gilt edges, 5s.

Bunyan's Pilgrim's Progress. With Illustrations. Cloth, 2s. 6d.

Child's Bible, The. With 200 Illustrations. *150th Thousand.* 7s. 6d.

Child's Life of Christ, The. With 200 Illustrations. 7s. 6d.

"Come, ye Children." Illustrated. By Rev. BENJAMIN WAUGH. 5s.

Conquests of the Cross. With numerous Illustrations. Complete in Three Vols. 9s. each.

Doré Bible. With 238 Illustrations by GUSTAVE DORÉ. Small folio, best morocco, gilt edges, £15. *Poplar Edition.* With 200 Illustrations. 15s.

Early Days of Christianity, The. By the Ven. Archdeacon FARRAR, D.D., F.R.S. LIBRARY EDITION. Two Vols., 24s.; morocco, £2 2s.

POPULAR EDITION. Complete in One Volume, cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, 10s. 6d.; tree-calf, 15s.

Family Prayer-Book, The. Edited by Rev. Canon GARRETT, M.A., and Rev. S. MARTIN. Extra crown 4to, cloth, 5s.; morocco, 18s.

Gleanings after Harvest. Studies and Sketches by the Rev. JOHN R. VERNON, M.A. Illustrated. 6s.

"Graven in the Rock." By the Rev. Dr. SAMUEL KINNS, F.R.A.S., Author of "Moses and Geology." Illustrated. 12s. 6d.

"Heart Chords." A Series of Works by Eminent Divines. Bound in cloth, red edges, One Shilling each.

My BIBLE. By the Right Rev. W. BOYD CARPENTER, Bishop of Ripon.

My FATHER. By the Right Rev. ASHTON OXENDEN, late Bishop of Merton.

My WORK FOR GOD. By the Right Rev. Bishop COTTERILL.

My OBJECT IN LIFE. By the Ven. Archdeacon FARRAR, D.D.

My ASPIRATIONS. By the Rev. G. MATHESON, D.D.

My EMOTIONAL LIFE. By the Rev. Preb. CHADWICK, D.D.

My BODY. By the Rev. Prof. W. G. BLAIKIE, D.D.

Helps to Belief. A Series of Helpful Manuals on the Religious Difficulties of the Day. Edited by the Rev. TEIGNMOUTH SHORE, M.A., Canon of Worcester. Cloth, 1s. each.

CREATION. By Dr. H. Goodwin, the late Lord Bishop of Carlisle.

THE DIVINITY OF OUR LORD. By the Lord Bishop of Derry.

THE MORALITY OF THE OLD TESTAMENT. By the Rev. Newman Smyth, D.D.

MIRACLES. By the Rev. Brownlow Maitland, M.A.

PRAYER. By the Rev. T. Teignmouth Shore, M.A.

THE ATONEMENT. By William Connor Magee, D.D., Late Archbishop of York.

Selections from Cassell & Company's Publications.

Holy Land and the Bible, The. By the Rev. C. GRIKIE, D.D., LL.D. (Edin.). Two Vols. 24s. *Illustrated Edition*, One Vol., 21s.

Lectures on Christianity and Socialism. By the Right Rev. ALFRED BARRY, D.D. Cloth; 3s. 6d.

Life of Christ, The. By the Ven. Archdeacon FARRAR, D.D., F.R.S. *LIBRARY EDITION*. Two Vols. Cloth, 24s.; morocco, 42s. *CHEAP ILLUSTRATED EDITION*. Cloth, 7s. 6d.; cloth, full gilt, gilt edges, 10s. 6d. *POPULAR EDITION*, in One Vol., 8vo, cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, gilt edges, 10s. 6d.; tree-calf, 15s.

Marriage Ring, The. By WILLIAM LANDELS, D.D. *New and Cheaper Edition*. 3s. 6d.

Morning and Evening Prayers for Workhouses and other Institutions. Selected by LOUISA TWINING. 2s.

Moses and Geology; or, The Harmony of the Bible with Science. By the Rev. SAMUEL KINNS, Ph.D., F.R.A.S. *Illustrated New Edition* on Larger and Superior Paper. 8s. 6d.

My Comfort in Sorrow. By HUGH MACMILLAN, D.D. 1s.

New Light on the Bible and the Holy Land. By B. T. A. EVETTS. *Illustrated*. 21s.

New Testament Commentary for English Readers, The. Edited by the Rt. Rev. C. J. ELLICOTT, D.D., Lord Bishop of Gloucester and Bristol. In Three Volumes. 21s. each. Vol. I.—The Four Gospels. Vol. II.—The Acts, Romans, Corinthians, Galatians. Vol. III.—The remaining Books of the New Testament.

New Testament Commentary. Edited by Bishop ELLICOTT. Handy Volume Edition. St. Matthew, 3s. 6d. St. Mark, 3s. St. Luke, 3s. 6d. St. John, 3s. 6d. The Acts of the Apostles, 3s. 6d. Romans, 2s. 6d. Corinthians I. and II., 3s. Galatians, Ephesians, and Philippians, 3s. Colossians, Thessalonians, and Timothy, 3s. Titus, Philemon, Hebrews, and James, 3s. Peter, Jude, and John, 3s. The Revelation, 3s. An Introduction to the New Testament, 3s. 6d.

Old Testament Commentary for English Readers, The. Edited by the Right Rev. C. J. ELLICOTT, D.D., Lord Bishop of Gloucester and Bristol. Complete in Five Vols. 21s. each. Vol. I.—Genesis to Numbers. Vol. II.—Deuteronomy to Samuel II. Vol. III.—Kings I. to Esther. Vol. IV.—Job to Isaiah. Vol. V.—Jeremiah to Malachi.

Old Testament Commentary. Edited by Bishop ELLICOTT. Handy Volume Edition. Genesis, 3s. 6d. Exodus, 3s. Leviticus, 3s. Numbers, 2s. 6d. Deuteronomy, 2s. 6d.

Protestantism, The History of. By the Rev. J. A. WYLIE, LL.D. Containing upwards of 600 Original Illustrations. Three Vols. 9s. each.

Quiver Yearly Volume, The. With about 600 Original Illustrations. 7s. 6d.

Religion, The Dictionary of. By the Rev. W. BENHAM, B.D. *Cheap Edition*. 10s. 6d.

St. George for England; and other Sermons preached to Children. By the Rev. T. TEIGNMOUTH SHORE, M.A., Canon of Worcester. 5s.

St. Paul, The Life and Work of. By the Ven. Archdeacon FARRAR, D.D., F.R.S., Chaplain-in-Ordinary to the Queen. *LIBRARY EDITION*. Two Vols., cloth, 24s.; calf, 42s. *ILLUSTRATED EDITION*, complete in One Volume, with about 300 Illustrations, £1 1s.; morocco, £2 2s. *POPULAR EDITION*. One Volume, 8vo, cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, 10s. 6d.; tree-calf, 15s.

Shall We Know One Another in Heaven? By the Rt. Rev. J. C. RYLE, D.D., Bishop of Liverpool. *Cheap Edition*. Paper covers, 6d.

Signs Christi. By the Rev. JAMES AITCHISON, 5s.

"Sunday," Its Origin, History, and Present Obligation. By the Ven. Archdeacon HASSEY, D.C.L. *Fifth Edition*. 7s. 6d.

Twilight of Life, The. Words of Counsel and Comfort for the Aged. By the Rev. JOHN ELLERTON, M.A. 1s. 6d.

Selections from Cassell & Company's Publications.

Educational Works and Students' Manuals.

Agricultural Text-Books, Cassell's. (The "Downton" Series.) Edited by JOHN WRIGHTSON, Professor of Agriculture. Fully Illustrated, 2s. 6d. each.
Farm Crops. By Prof. WRIGHTSON.
Soils and Manures. By J. M. H. MUNRO, D.Sc. (London), F.I.C., F.C.S.
Live Stock. By Prof. WRIGHTSON.

Alphabet, Cassell's Pictorial. 3s. 6d.

Arithmetics, The Modern School. By GEORGE RICKS, B.Sc. Lond. With Test Cards. (*List on application.*)

Atlas, Cassell's Popular. Containing 24 Coloured Maps. 2s. 6d.

Book-Keeping. By THEODORE JONES. For Schools, 2s.; cloth, 3s. For the Million, 2s.; cloth, 3s. Books for Jones's System, 2s.

Chemistry, The Public School. By J. H. ANDERSON, M.A. 2s. 6d.

Classical Texts for Schools, Cassell's. (*A List post free on application.*)

Cookery for Schools. By LIZZIE HERITAGE. 6d.

Copy-Books, Cassell's Graduated. *Eighteen Books.* 2d. each.

Copy-Books, The Modern School. *Twelve Books.* 2d. each.

Drawing Copies, Cassell's Modern School Freehand. First Grade, 1s.; Second Grade, 2s.

Drawing Copies, Cassell's "New Standard." *Complete in Fourteen Books.* 2d., 3d., and 4d. each.

Energy and Motion. By WILLIAM PAICE, M.A. Illustrated. 1s. 6d.

Euclid, Cassell's. Edited by Prof. WALLACE, M.A. 1s.

Euclid, The First Four Books of. New Edition. In paper, 6d.; cloth, 9d.

Experimental Geometry. By PAUL BERT. Illustrated. 1s. 6d.

French, Cassell's Lessons in. *New and Revised Edition.* Parts I and II, each 2s. 6d.; complete, 4s. 6d. Key, 1s. 6d.

French-English and English-French Dictionary. *Entirely New and Enlarged Edition.* 1,150 pages, 8vo, cloth, 3s. 6d.

French Reader, Cassell's Public School. By G. S. CONRAD. 2s. 6d.

Gaudeamus. Songs for Colleges and Schools. Edited by JOHN FARMER. 5s. Words only, paper covers, 6d.; cloth, 9d.

German Dictionary, Cassell's New. (German-English, English-German). *Cheap Edition.* Cloth, 3s. 6d.

Hand-and-Eye Training. By G. RICKS, B.Sc. 2 Vols., with 16 Coloured Plates in each Vol. Cr. 4to, 6s. each. Cards for Class Use, 5 sets, 1s. each.

Historical Cartoons, Cassell's Coloured. Size 45 in. x 35 in., 2s. each. Mounted on canvas and varnished, with rollers, 5s. each.

Historical Course for Schools, Cassell's. Illustrated throughout.

I.—Stories from English History, 1s.

II.—The Simple Outline of English History, 1s. 3d.

III.—The Class History of England, 2s. 6d.

Latin Dictionary, Cassell's New. (Latin-English and English-Latin). Revised by J. R. V. MARCHANT, M.A., and J. F. CHARLES, B.A. Cloth, 3s. 6d.

Latin Primer, The First. By Prof. POSTGATE. 1s.

Latin Primer, The New. By Prof. J. P. POSTGATE. Crown 8vo, 2s. 6d.

Latin Prose for Lower Forms. By M. A. BAYFIELD, M.A. 2s. 6d.

Laundry Work (How to Teach It). By Mrs. E. LORD. 6d.

Laws of Every-Day Life. By H. O. ARNOLD-FORSTER, M.P. 1s. 6d. *Special Edition on Green Paper for Persons with Weak Eyesight.* 2s.

Little Folks' History of England. Illustrated. 1s. 6d.

Making of the Home, The. By Mrs. SAMUEL A. BARNETT. 1s. 6d.

Map-Building Series, Cassell's. Outline Maps prepared by H. O. ARNOLD-FORSTER, M.P. Per Set of Twelve, 1s.

Marlborough Books:—Arithmetic Examples, 3s. Arithmetic Rules, 1s. 6d.

French Exercises, 3s. 6d. French Grammar, 2s. 6d. German do., 3s. 6d.

Mechanics for Young Beginners, A First Book of. By the Rev. J. G. EASTON, M.A. 4s. 6d.

Selections from Cassell & Company's Publications.

Mechanics and Machine Design, Numerical Examples in Practical.
By R. G. BLAINE, M.E. With Diagrams. Cloth, 2s. 6d.

"Model Joint" Wall Sheets, for Instruction in Manual Training. By S. BARTER. Eight Sheets, 2s. 6d. each.

Natural History Coloured Wall Sheets, Cassell's New. 18 Subjects. Size 29 by 31 in. Mounted on rollers and varnished, 3s. each.

Object Lessons from Nature. By Prof. L C. MIAZZI, F.L.S. Half cloth, paper boards, 2s. ; or cloth, 2s. 6d.

Perspective, The Principles of. By G. TROBRIDGE. Illustrated. Paper, 1s. 6d. ; cloth, 2s. 6d.

Physiology for Students, Elementary. By A. T. SCHOFIELD, M.D., M.R.C.S., &c. Illustrated. 7s. 6d.

Physiology for Schools. By A. T. SCHOFIELD, M.D., M.R.C.S., &c. Illustrated. Cloth, 1s. 6d. ; Three Parts, paper covers, 5d. each ; or cloth limp, 6d. each.

Poetry Readers, Cassell's New. Illustrated. 12 Books, 1d. each ; or complete in one Vol., cloth, 1s. 6d.

Popular Educator, Cassell's NEW. With Revised Text, New Maps, New Coloured Plates, New Type, &c. In 8 Vols., 5s. each ; or in Four Vols., half-morocco, 5os. the set.

Readers, Cassell's "Higher Class." (*List on application.*)

Readers, Cassell's Historical. Illustrated. (*List on application.*)

Readers, Cassell's Readable. Illustrated. (*List on application.*)

Readers for Infant Schools, Coloured. Three Books. 4d. each.

Reader, The Citizen. By H. O. ARNOLD-FORSTER, M.P. Illustrated. 1s. 6d. Also a *Scottish Edition*, cloth, 1s. 6d.

Reader, The Temperance. By Rev. J. DENNIS HIRD. Cr. 8vo, 1s. 6d.

Readers, The "Modern School" Geographical. (*List on application.*)

Readers, The "Modern School." Illustrated. (*List on application.*)

Reckoning, Howard's Anglo-American Art of. By C. FRUSHER HOWARD. Paper covers, 1s. ; cloth, 2s. *New Edition*, 5s.

Round the Empire. By G. R. PARKIN. Fully Illustrated. 1s. 6d.

Science Applied to Work. By J. A. BOWER. Illustrated. 1s.

Science of Everyday Life. By J. A. BOWER. Illustrated. 1s.

Shade from Models, Common Objects, and Casts of Ornament, How to. By W. E. SPARKES. With 25 Plates by the Author. 3s.

Shakspere's Plays for School Use. 5 Books. Illustrated. 6d. each.

Spelling, A Complete Manual of. By J. D. MORELL, LL.D. 1s.

Technical Manuals, Cassell's. Illustrated throughout :—

- Handrailing and Staircasing, 3s. 6d.—Bricklayers, Drawing for, 3s.—
- Building Construction, 2s. — Cabinet-Makers, Drawing for, 3s.—
- Carpenters and Joiners, Drawing for, 3s. 6d.—Gothic Stonework, 3s.—
- Linear Drawing and Practical Geometry, 2s.—Linear Drawing and Projection.—The Two Vols. in One, 3s. 6d.—Machinists and Engineers, Drawing for, 4s. 6d.—Metal-Plate Workers, Drawing for, 3s.—Model Drawing, 3s.—Orthographical and Isometrical Projection, 2s.—Practical Perspective, 3s.—Stonemasons, Drawing for, 3s.—Applied Mechanics, by Sir R. S. Ball, LL.D. 2s.—Systematic Drawing and Shading, 2s.

Technical Educator, Cassell's. *Revised Edition.* Four Vols. 5s. each.

Technology, Manuals of. Edited by Prof. AYRTON, F.R.S., and RICHARD WORMELL, D.Sc., M.A. Illustrated throughout :—

- The Dyeing of Textile Fabrics, by Prof. Hummel, 5s.—Watch and Clock Making, by D. Glasgow, Vice-President of the British Horological Institute, 4s. 6d.—Steel and Iron, by Prof. W. H. Greenwood, F.C.S., M.I.C.E., &c., 5s.—Spinning Woollen and Worsted, by W. S. B. McLaren, M.P., 4s. 6d.—Design in Textile Fabrics, by T. R. Ashurst, 4s. 6d.—Practical Mechanics, by Prof. Perry, M.E., 3s. 6d.—Cutting Tools Worked by Hand and Machine, by Prof. Smith, 3s. 6d.

This World of Ours. By H. O. ARNOLD-FORSTER, M.P. Illustrated. 3s. 6d.

Books for Young People.

"Little Folks" Half-Yearly Volume. Containing 432 4to pages, with about 200 Illustrations, and Pictures in Colour. Boards, 3s. 6d.; cloth, 5s.

Bo-Peep. A Book for the Little Ones. With Original Stories and Verse. Illustrated throughout. Yearly Volume. Boards, 2s. 6d.; cloth, 3s. 6d.

Bashful Fifteen. By L. T. MEADE. Illustrated. 3s. 6d.

The Peep of Day. *Cassell's Illustrated Edition.* 2s. 6d.

Maggie Steele's Diary. By E. A. DILLWYN. 2s. 6d.

A Bundle of Tales. By MAGGIE BROWNE (Author of "Wanted—a King," &c.). SAM BROWNE, and AUNT ETHEL. 3s. 6d.

Fairy Tales in other Lands. By JULIA GODDARD. Illustrated. 3s. 6d.

Story Poems for Young and Old. By E. DAVENPORT. 6s.

Pleasant Work for Busy Fingers. By MAGGIE BROWNE. Illustrated. 5s.

Born a King. By FRANCES and MARY ARNOLD-FORSTER. (The Life of Alfonso XIII., the Boy King of Spain.) Illustrated. 1s.

Cassell's Pictorial Scrap Book, containing several thousand Pictures. Cloth, 21s. Also in Six Sectional Vols., paper boards, 3s. 6d. each.

The Marvellous Budget: being 65,526 Stories of Jack and Jill. By the Rev. F. BENNETT. Illustrated. 2s. 6d.

Schoolroom and Home Theatricals. By ARTHUR WAUGH. Illustrated. 2s. 6d.

Magic at Home. By Prof. HOFFMAN. Illustrated. Cloth gilt, 5s.

Little Mother Bunch. By Mrs. MOLESWORTH. Illustrated. Cloth, 3s. 6d.

Pictures of School Life and Boyhood. Selected from the best Authors. Edited by PERCY FITZGERALD, M.A. 2s. 6d.

Heroes of Every-day Life. By LAURA LANE. With about 20 Full-page Illustrations. Cloth, 2s. 6d.

Books for Young People. Illustrated. Cloth gilt, 5s. each.

The Champion of Odin; or, Viking Life in the Days of the Old. By J. Fred. Hodgetts. Bound by a Spell; or, The Hunted Witch of the Forest. By the Hon. Mrs. Greene.

Under Bayard's Banner. By Henry Frith.

Books for Young People. Illustrated. 3s. 6d. each.

*The White House at Inch Gow. By Mrs. Pitt.

*A Sweet Girl Graduate. By L. T. Meade.

*The King's Command: A Story for Girls. By Maggie Symington.

Lost in Samos. A Tale of Adventure in the Navigator Islands. By Edward S. Ellis.

Tad; or, "Getting Even" with Him. By Edward S. Ellis.

*The Palace Beautiful. By L. T. Meade.

*Also procurable in superior binding, 5s. each.

Crown 8vo Library. Cheap Editions. Gilt edges, 2s. 6d. each.

Rambles Round London. By C. L. Matéaux. Illustrated.

Around and About Old England. By C. L. Matéaux. Illustrated.

Paws and Claws. By one of the Authors of "Poems written for a Child." Illustrated.

Decisive Events in History. By Thomas Archer. With Original Illustrations.

The True Robinson Crusoe. Cloth gilt.

Peeps Abroad for Folks at Home. Illustrated throughout.

Wild Adventures in Wild Places. By Dr. Gordon Stables, R.N. Illustrated.

Modern Explorers. By Thomas Frost. Illustrated. *New and Cheaper Edition.*

Early Explorers. By Thomas Frost. Home Chat with our Young Folks. Illustrated throughout.

Jungle, Peak, and Plain. Illustrated throughout.

The England of Shakespeare. By E. Goudby. With Full-page Illustrations.

Selections from Cassell & Company's Publications.

| | | |
|---|---|--|
| The "Cross and Crown" Series. | | Illustrated. 2s. 6d. each. |
| Freedom's Sword: A Story of the Days of Wallace and Bruce. By Annie S. Swan. | Strong to Suffer: A Story of the Jews. By E. Wayne. | Through Trial to Triumph. By Madeline B. Hunt. |
| Heroes of the Indian Empire; or, Stories of Valour and Victory. By Ernest Foster. | In Letters of Flame: A Story of the Waldenses. By C. L. Matzau. | By Fire and Sword: A Story of the Huguenots. By Thomas Archer. |
| "Golden Mottoes" Series, The. | | Adam Hepburn's Vow: A Tale of Kirk and Covenant. By Annie S. Swan. |
| Each Book containing 208 pages, with Four full-page Original Illustrations. | | No. XIII.; or, The Story of the Lost Veatal. A Tale of Early Christian Days. By Emma Marshall. |
| "Nil Desperandum." By the Rev. F. Langbridge, M.A. | "Bear and Forbear." By Sarah Pitt. | Crown 8vo, cloth gilt, 2s. each. |
| "Foremost if I Can." By Helen Attidge. | | "Honour is my Guide." By Jeannie Hering (Mrs. Adams-Action). |
| Cassell's Picture Story Books. | | "Aim at a Sure End." By Emily Searchfield. |
| Pictures and Stories, &c. 6d. each. | | "He Conquers who Endures." By the Author of "May Cunningham's Trial," &c. |
| Little Talks. | Daisy's Story Book. | Auntie's Stories. |
| Bright Stars. | Dot's Story Book. | Birdie's Story Book. |
| Nursery Toys. | A Nest of Stories. | Little Chimes. |
| Pet's Posy. | Good-Night Stories. | A Sheaf of Tales. |
| Tiny Tales. | Chats for Small Chatterers. | Dewdrop Stories. |
| Cassell's Sixpenny Story Books. | | All Illustrated, and containing Interesting Stories by well-known writers. |
| The Smuggler's Cave. | The Boat Club. | |
| Little Lizzie. | Little Pickles. | |
| Little Bird, Life and Adventures of | The Winchester College Boys. | |
| Luke Barnicot. | My First Cruise. | |
| | The Little Peacemaker. | |
| | The Delft Jug. | |
| Cassell's Shilling Story Books. | | All Illustrated, and containing Interesting Stories. |
| Bunty and the Boys. | Surly Bob. | |
| The Heir of Blundell. | The Giant's Cradle. | |
| The Mystery at Shoncliff School. | Shag and Doll. | |
| Claimed at Last, and Roy's Reward. | Aunt Lucia's Locket. | |
| Thorns and Tangies. | The Magic Mirror. | |
| The Cuckoo in the Robin's Nest. | The Cost of Revenge. | |
| John's Mistake. | Clever Frank. | |
| The History of Five Little Pitchers. | Among the Redskins. | |
| Diamonds in the Sand. | The Ferryman of Brill. | |
| Illustrated Books for the Little Ones. | | Harry Maxwell. |
| All Illustrated. 1s. each; cloth gilt, 1s. 6d. | A Banished Monarch. | |
| Firelight Stories. | Seventeen Cats. | |
| Sunlight and Shade. | Indoors and Out. | |
| Rub-a-Dub Tales. | Some Farm Friends. | |
| Fine Feathers and Fluffy Fur. | Wandering Ways. | |
| Scrambles and Scraps. | Dumb Friends. | |
| Tittle Tattle Tales. | Those Golden Sands. | |
| Up and Down the Garden. | Little Mothers & their Children. | |
| All Sorts of Adventures. | Our Pretty Pets. | |
| Our Sunday Stories. | Our Schoolday Hours. | |
| Our Holiday Hours. | Creatures Tame. | |
| Albums for Children. | | Creatures Wild. |
| The Album for Home, School, and Play. Containing Stories by Popular Authors. Illustrated. | Picture Album of All Sorts. With Full-page Illustrations. | |
| My Own Album of Animals. With Full-page Illustrations. | The Chit-Chat Album. Illustrated throughout. | |

Selections from Cassell & Company's Publications.

"Wanted—a King" Series. Illustrated. 3s. 6d. each.

Great Grandmamma. By Georgina M. Syng.

Robin's Ride. By Ellinor Davenport Adams.

Wanted—a King; or, How Merle set the Nursery Rhymes to Rights.

By Maggie Browne. With Original Designs by Harry Furniss.

The World's Workers. A Series of New and Original Volumes.

With Portraits printed on a tint as Frontispiece. 1s. each.

Charles Haddon Spurgeon. By G. HOLDEN PIKE.

Dr. Arnold of Rugby. By Rose E. Seize.

The Earl of Shaftesbury. By Henry Firth.

Sarah Robinson, Agnes Weston, and Mrs. Meredith. By E. M. Tomkinson.

Thomas A. Edison and Samuel F. B. Morse. By Dr. Denslow and J. Marsh Parker.

Mrs. Somerville and Mary Carpenter. By Phyllis Browne.

General Gordon. By the Rev. S. A. Swaine.

Charles Dickens. By his Eldest Daughter.

Sir Titus Salt and George Moore. By J. Burnley.

David Livingstone. By Robert Smiles.

•• The above Works (excluding RICHARD COBDEN and CHARLES HADDON SPURGEON) can also be had in *Three in One Vol.*, cloth, gilt edges, 3s.

Library of Wonders. Illustrated Gift-books for Boys. Paper, 1s.; cloth, 1s. 6d.

Wonderful Adventures.

Wonderful Escapes.

Wonderful Balloon Ascents.

Cassell's Eighteenpenny Story Books. Illustrated.

Wee Willie Winkie.

Ups and Downs of a Donkey's Life.

Three Wee Ulster Lassies.

Up the Ladder.

Dick's Hero; and other Stories.

The Chip Boy.

Baggies, Baggies, and the Emperor.

Roses from Thorns.

Gift Books for Young People. Original Illustrations in each.

The Boy Hunters of Kentucky. By Edward S. Ellis.

Red Feather: a Tale of the American Frontier. By Edward S. Ellis.

Seeking a City.

Rhoda's Reward; or, "If Wishes were Horses."

Jack Marston's Anchor.

Frank's Life-Battle; or, The Three Friends.

Fritters. By Sarah Pitt.

The Two Hardcastles. By Madame Bonavita Hunt.

Cassell's Two-Shilling Story Books. Illustrated.

Stories of the Tower.

Mr. Burke's Nieces.

May Cunningham's Trial.

The Top of the Ladder: How to Reach it.

Little Flotsam.

Madge and Her Friends.

The Children of the Court.

Maid Marjory.

Peggy, and other Tales.

Wonders of Bodily Strength and Skill.

Wonders of Animal Instinct.

Faith's Father.

By Land and Sea.

The Young Berringtons.

Jeff and Left.

Tom Morris's Error.

Worth more than Gold.

"Through Flood—Through Fire;" and other Stories.

The Girl with the Golden Locks.

Stories of the Olden Time.

By Popular Authors. With Four Cloth gilt, 1s. 6d. each.

Major Monk's Motto. By the Rev. F. Langbridge.

Trixy. By Maggie Symington.

Rags and Rainbows: A Story of Thanksgiving.

Uncle William's Charges; or, The Broken Trust.

Pretty Pink's Purpose; or, The Little Street Merchants.

Tim Thomson's Trial. By George Weatherly.

Ursula's Stumbling-Block. By Julia Goddard.

Ruth's Life-Work. By the Rev. Joseph Johnson.

The Four Cats of the Tippertons.

Marion's Two Homes.

Little Folks' Sunday Book.

Two Fourpenny Bits.

Poor Nelly.

Tom Heriot.

Through Peril to Fortune.

Aunt Tabitha's Waifs.

In Mischief Again.

School Girls.

Selections from Cassell & Company's Publications.

Cheap Editions of Popular Volumes for Young People. Bound in cloth, gilt edges, 2s. 6d. each.

| | |
|--|------------------------------------|
| In Quest of Gold; or, Under the Whanga Falls. | For Queen and King. |
| On Board the <i>Emeralda</i> ; or, Martin Leigh's Log. | Esther West. |
| The Romance of Invention: Vignettes from the Annals of Industry and Science. | Three Homes. |
| | Working to Win. |
| | Perils Afloat and Brigands Ashore. |

The "Deerfoot" Series. By EDWARD S. ELLIS. With Four full-page Illustrations in each Book. Cloth, bevelled boards, 2s. 6d. each.

| | |
|---------------------------|----------------------------|
| The Hunters of the Ozark. | The Camp in the Mountains. |
| | The Last War Trail. |

The "Log Cabin" Series. By EDWARD S. ELLIS. With Four Full-page Illustrations in each. Crown 8vo, cloth, 2s. 6d. each.

| | |
|-----------------|---------------------------|
| The Lost Trail. | Camp-Fire and Wigwam. |
| | Footprints in the Forest. |

The "Great River" Series. By EDWARD S. ELLIS. Illustrated. Crown 8vo, cloth, bevelled boards, 2s. 6d. each.

| | |
|---|--------------------|
| Down the Mississippi. | Lost in the Wilds. |
| Up the Tapajos; or, Adventures in Brazil. | |

The "Boy Pioneer" Series. By EDWARD S. ELLIS. With Four Full-page Illustrations in each Book. Crown 8vo, cloth, 2s. 6d. each.

| | |
|---|---|
| Ned in the Woods. A Tale of Early Days in the West. | Ned on the River. A Tale of Indian River Warfare. |
| Ned in the Block House. | A Story of Pioneer Life in Kentucky. |

The "World in Pictures." Illustrated throughout. 2s. 6d. each.

| | |
|-----------------------------------|---------------------------------|
| A Ramble Round France. | The Eastern Wonderland (Japan). |
| All the Russias. | Glimpses of South America. |
| Chats about Germany. | Round Africa. |
| The Land of the Pyramids (Egypt). | The Land of Temples (India). |
| | The Isles of the Pacific. |
| | Peeps into China. |

Half-Crown Story Books.

| | |
|---------------------------|---|
| Little Hinges. | Truth will Out. |
| Margaret's Enemy. | Soldier and Patriot (George Washington). |
| Pen's Perplexities. | The Young Man in the Battle of Life. By the Rev. Dr. Landels. |
| Notable Shipwrecks. | |
| Golden Days. | At the South Pole. |
| Wonders of Common Things. | |

Books for the Little Ones.

| | |
|---|--|
| Rhymes for the Young Folk. By William Allingham. Beautifully Illustrated. 3s. 6d. | My Diary. With 12 Coloured Plates and 360 Woodcuts. 1s. |
| The History Scrap Book. With nearly 1,000 Engravings. 5s.; cloth, 7s. 6d. | The Sunday Scrap Book. With Several Hundred Illustrations. Paper boards, 3s. 6d.; cloth, gilt edges, 5s. |
| The Pilgrim's Progress. 2s. 6d. | The Old Fairy Tales. With Original Illustrations. Boards, 1s.; cloth, 1s. 6d. |

Cassell & Company's Complete Catalogue will be sent free on application to

CASSELL & COMPANY, LIMITED, Ludgate Hill, London.





COUNTWAY LIBRARY



HC 25QJ

